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THE FLOWER GROWER

FORMERLY

THE MODERN GLADIOLUS GROWER

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1919

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
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In Our Glad Garden of Delight.

[*Written expressly for The Flower Grower.*]

By Rose Blair Marsh.

FROM THE TIME the first bloom, so eagerly watched for, greets us in the early summer, until the last cherished blossom departs in the fall, ours is truly a garden of delight.

This year the beautiful crimson blossom of *War* was the last of the Glads to flower. I hope it was symbolical of the last real war that will ever be—the one just ended.

My husband, being a man of sentiment, this year planted *Peace* and *War* side by side and to the many friends who visited our garden, that particular spot seemed to hold the most interest. Who knows, perhaps the good fairies down in the heart of every flower, may have heard some of the unspoken prayers and carried them on thought waves and helped with their little mite toward universal peace. To any readers of this who may not believe in fairies, let them beware, lest they be old before their time and soured to the joys of life.

One of the visitors took us to task for not selling the blooms for a patriotic cause. So, one day, when I was down street, I stepped into one of the large retail floral shops and asked the proprietor if he could use any Gladioli. His reply in the negative was so very emphatic that it nettled me, and I then and there made a mental resolve to get an order from him. Instead of leaving, I wandered around the room, asking innocent questions about various plants and a new flower on display. Finally, I remarked, "I see you have only three kinds of Gladioli." "Yes," he replied, "that is all I carry." Very carelessly I said, "We have twenty-nine varieties in bloom at present, and more to come."

GLADIOLUS—*ASHTABULA.*

Originated by Munsell & Harvey, Ashtabula, Ohio. A tall growing light pink of vigorous growth and erect habit. See description, page 106, October, 1918, issue of The Flower Grower.

With that, if I may use a little slang, he "sat up and took notice," exclaiming, "Twenty-nine varieties, I didn't know there were so many." That gave me my opening and for the next five minutes I gave that poor man such a lecture on Glads that in order to get rid of me he asked to have one hundred blooms sent the following morning, and from that time he was a regular customer. It was much fun to change his mind—if ever the time should come that I am thrown on the cold world, I intend to be a knight-lady of the grip. Perhaps though, they would not all be such easy victims.

I heard a story of a girl who was becoming interested in a man who showed a decided preference for her, but after a walk with him, one lovely spring day, when she watched him carelessly switching the heads off the early violets with a light rattan cane he carried—thoughtlessness on his part, no doubt, she decided that it he could be so cruel to flowers, he might be the same to her, and she would have nothing further to do with him. I understand her attitude, for at times it has actually hurt me to see some especially favorite stalk cut down.

From my point of view the Gladiolus is the most wonderful flower in the world today.

(*Concluded on page 10.*)

Hybridizing and Crossing the French Iris.*

By William Rollins.

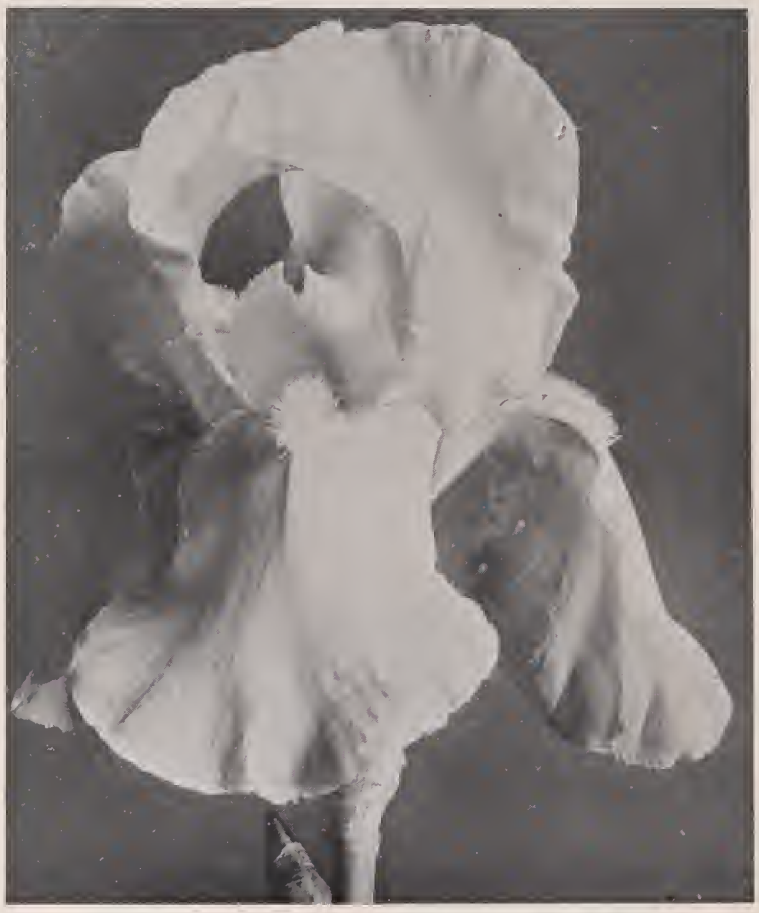
(Reprinted by permission from *Horticulture*, Boston.)

DESCRIPTION OF THE PARTS OF AN IRIS FLOWER USED IN HYBRIDIZING.

We need know only a few terms to understand in a description those parts of a flower used in crossing, but for the same reason a physician should know anatomy a gardener should know the anatomy of plants. The more we know of plant physiology the better. At the end of this letter two or three interesting books to get acquainted with will be given as an appendix. The outer parts of an Iris flower are called the perianth. This consists of six segments. Three are upright or incurved. They are called the erect segments of the perianth. Three are horizontal or hanging down. These are named the drooping segments of the perianth. Within the floral envelope thus formed are the male organs and parts of the female. The pollen, usually called the male agent, is contained in the anthers, indicated in the figures by the letter A. Those parts of what are usually called the female organs, which are enclosed in the perianth, are the stigmas marked in the pictures by the letter S. Each stigma has two lips, shown by the letter L.

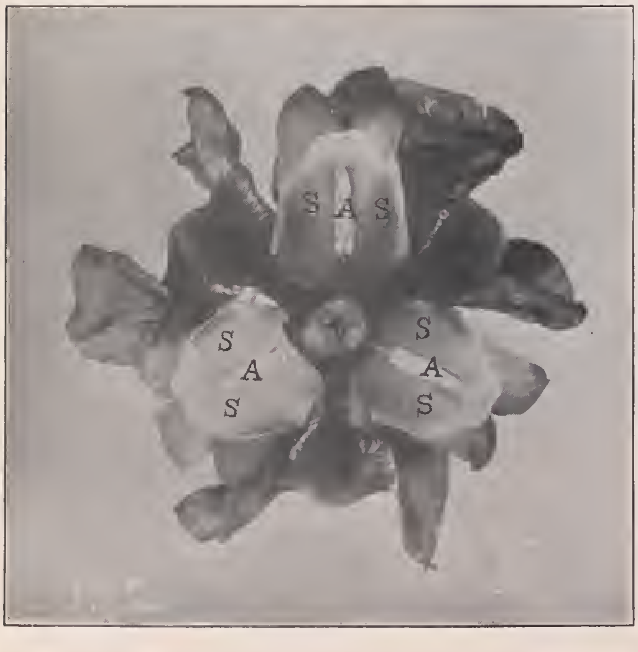
The flower in figure 2 has had the drooping segments of the perianth removed, revealing the three anthers A, and directly back of them, the three stigmas, S. The only other part of immediate importance to the hybridizer is the ovary with its ovules. The former is marked O in the cuts. It is generally green, and not a part of what we usually think of as the flower. The ovary has three divisions, each connected with a stigma. The terms given are the old ones, but perfectly legitimate. To have used the modern ones would have complicated the description. They are long and would have needed microphotographs to explain them. The pollen grains, strictly speaking, are not the male organs, or the ovules the female, they are only groups of cells containing them.

For the purpose of crossing we may look upon an Iris flower as an apartment house having three suites, each occupied by one couple. If we wish the seed pod to be symmetrical, like those shown in Figure 9, we must be sure each family has about the same number of children. To ensure this we must apply the pollen to each stigma. The seed pods shown came from a plant, one of whose flowers is seen in Figure 1. They show good pollination and fertilization, as each division of one pod contained fifty plump seeds. Figure 3 is a picture of an Iris flower with part of the wall of one section of the three celled ovary cut away to show the ovules, which are the small white dots. When their contained female cells are fertilized, the ovules become seeds. The ovary grows and becomes the seed pod.



Iris Athena.

Figure 1



HOW TO HYBRIDIZE.

The only instrument needed is a pair of strong tweezers. To buy one of the elaborate cases of instruments offered for sale is a waste of money. The sharp points of the tweezers should be rounded and polished, to prevent them from wounding the delicate tissues of the stigmas, in removing the anthers from the flowers, to be used as females. Even a slight abrasion, like that intentionally made to the stigma, in Figure 6, might result in imperfect fertilization.

FIRST STEP.

Every pleasant morning during the flowering season, walk between the rows of the varieties to be used as mothers, examining each plant to see which buds have begun to open enough to allow the tips of the drooping segments of the perianth to be grasped by the tweezers and broken off at the base, revealing the anthers A, which are then to be removed in the manner indicated in Figure 6. One blade of the tweezers is to be slipped behind the tip of the anther and carefully slid down to the position shown, then close the blades and remove the anther by drawing it away from the stigma. Repeat the process with the other two anthers. It is not safe to wait for the flower to open before removing the anthers as their pollen sacs may have burst, freeing the pollen grains. Insects may bring these in contact with the sensitive surfaces of the stigmas. When this has occurred and the flower afterwards pollinated with the chosen pollen, the record kept of the crossing will be unreliable. The surface of the anther shown in Figure 4 is smooth, indicating that the pollen is still within the sacs. When the erect segments of the perianth have expanded to the position in Figure 5 the stigmas are ready to receive the pollen. The time in warm sunny weather is from two to three hours after the first indication of the opening of the flower, that is from the time when you should have removed the drooping segments and the stigmas.

SECOND STEP.

Walk between the rows of plants, whose flowers are to be used as males, selecting as many blossoms of a kind as you have females of the variety you wish to cross with them. Examine the anthers to see that the pollen has come out of the sacs. You can tell this by the anthers having lost their smoothness, appearing granular, from the escaped pollen grains, which are now ripe. Place the selected flowers in a flat market basket, like the one in Figure 8, which should also hold

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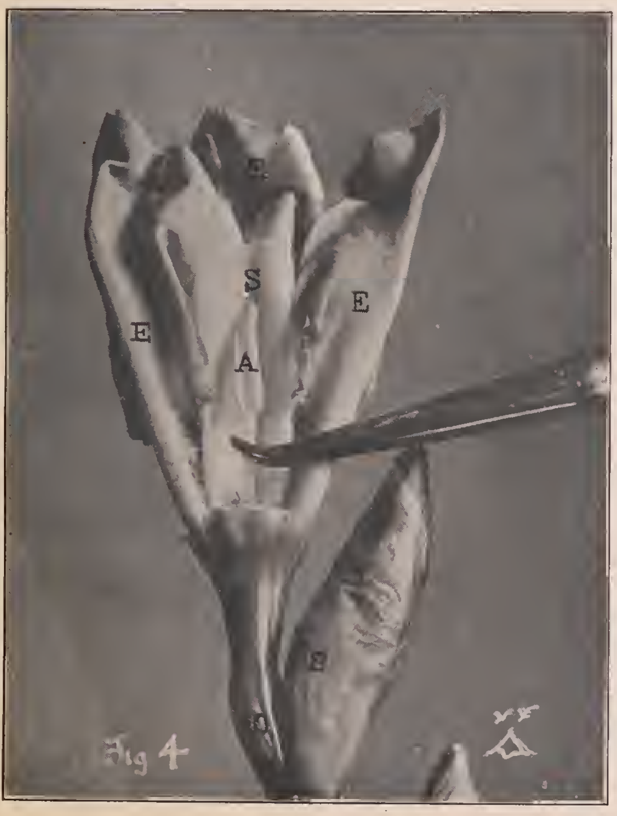
*The illustrations accompanying Mr Rollins' series of articles on the Iris are so numbered that they do not arrange themselves correctly in the descriptive matter. We call attention to this fact so that readers may understand why illustrations are referred to in the text which do not appear. They will all appear in good time, and will all be numbered so that in referring to the articles as a series everything will be complete and plain.

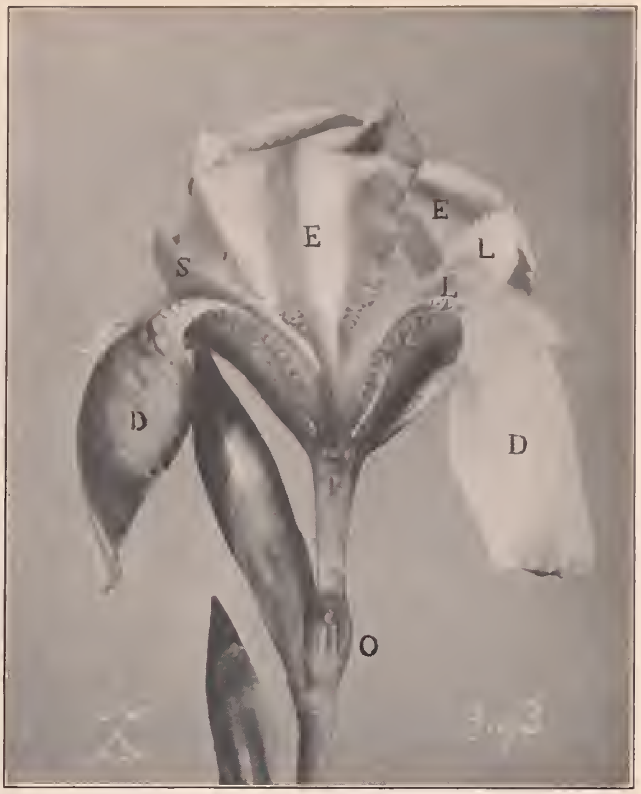
the tweezers, labels, pencils and record book. You should also have a light stool of cypress wood, which stands the weather. A good form is to be seen in the Figure 8 which is a general view of part of an Iris garden of the size recommended, taken toward the end of the crossing season, and showing the labels, the developing pods, and the stakes to which the seed bearing stalks are tied. This should always be done each day as soon as a plant is crossed, as otherwise the tall stalks are likely to get broken. Observe the hole in the top of the stool for the hand, and the band at the bottom connecting the legs, preventing them from sinking into the soft earth. Now having everything ready, like Uncle William, when he built his chimney, place the stool near the flower to be crossed, and sit in a comfortable position (for it is well to take life easy) from which the stigmas can be reached, without touching them except with the pollen. Next break off the three erect segments of the perianth, leaving only the three stigmas, as in Figure 6. The flower is now entirely prepared for crossing. Break off one of the drooping segments from a flower to be used as a male. Grasp the anther, thus exposed, with the tweezers, and break the stem. Apply the anther to a stigma between the lips L in the cut, with the pollen surface next to the lower lip. Gently wipe off the pollen onto this lower lip then draw the anther, and repeat the operation, with one of the other two anthers of the flower used as a male and the two remaining stigmas of that used as a female.

In the directions usually given for crossing, you will find a brush is to be used in handling pollen. If you wish your records to be of value avoid this method, for if you employ it you will soon get a mixture of pollens; moreover, the pollen grains should touch nothing except the sensitive surfaces of the stigmas. As the sperms in pollen grains are not equally vigorous, it is best to apply many to each stigma. They should be only from strong selected plants with perfect flowers and well developed anthers. Discard any flower having even one imperfect anther, or in which the anthers are increased in number. Pollen is said to retain its vitality for some time. So do old men, but young fellows get the strongest children, so use your pollen fresh; as quickly as possible after it is ripe.

Apply it only to the stigmas of perfect flowers, growing on strong plants, and as soon as the erect segments of the perianth have expanded to the position shown in Figure 5—that is on recently opened flowers. If you want to use the pollen from an early flowering kind on one that blossoms late, grow the former on a north slope, and where it will receive direct sunlight for only five hours a day. The flowers will then be coming at a time when those of the same variety on a south slope exposed to sun all day will be passing.

For an old gardener whose hearing is failing these small clearings in the forest for retarding Iris, or for preventing stray pollen from reaching the experiment patches of maize, as recommended in an earlier letter, have a charm. They bring him so near the forest birds he can hear their voices. The songs of the hermit thrush and the vireos form an accompaniment to his work, reminding him of the time when his whole world seemed to be "one glad sweet song."





(*To be continued.*)

The Glorious Japanese Iris.

This valuable contribution to the Iris family differs in form and in the time and length of its season of bloom from most other sorts of Iris. There are both single and double flowering varieties, and they show a marvelous range in their coloring, blending delicately from snow white to a royal purple and a deep rich plum color. Their blooming season being later than the ordinary varieties, the flowers come at a time when there is a dearth of bloom in the garden, making them doubly welcome and desirable for cutting and other decorative purposes.

The plants can be readily propagated from seeds or from divisions of the old clumps; the seedlings usually blooming the third year after sowing. In planting roots, place them from eight to ten inches apart in rich, moist soil, and about as deep as they were before transplanting (with the crown quite near the surface). Resetting can be done, with success, at any time during the growing season, provided it is done early enough to give the plants an opportunity to become well rooted before frost. Though the Japanese Iris will thrive when exposed to full sunlight, a situation in which there is some protection from the rays of the sun during the hottest part of the day, is likely to give the best results.

Once well established in suitable environment Iris *Kaempferi* will multiply and bloom profusely; a strong clump, oftentimes, sending up from 10 to 12 flower stalks, crowned with a cluster of magnificent blossoms, each from six to seven inches across.

By dividing and re-setting the roots occasionally and not permitting weeds and grass to encroach upon it, a bed of Iris *Kaempferi* will last a lifetime—"a thing of beauty" and "a joy forever."—BERTHA BERBERT HAMMOND in *The Rural New Yorker.*

Electrical Treatment of Seeds.

The English press is manifesting considerable interest at present in the question of the application of electricity to agriculture as a means of increasing the supply of home grown food-stuffs. Experiments which have been going on for some years in England have clearly demonstrated that the use of an electric discharge has a marked effect on crop production. The subject has lately been brought to the fore by Charles Mercier, who, writing to the *London Times,* states that "great and startling improvements in agriculture are on the point of being introduced," and says that a method has been devised to overcome the difficulty of expense of electrification, as applied to both the growing crops and the seed before it is sown. Installations at which farmers can have their seeds treated by experts have been erected at several centers, and are capable of treating some 30,000 sacks per month. The increase of yield from seed so treated, though not so great as the increase from electrification of the growing crops, is stated to be considerable, ranging from 25% to as much as 80%.—*Scientific American.*

The Oldest Rose Garden in America.

At Van Cortlandt Manor, Croton-on-Hudson, New York, is a Rose garden, yet prosperous and lovely, which has been in existence for more than a hundred years. The old loophole pierced manor house bears authentic date of "A. D. 1681."

Great Rose bushes are there in the garden, covered in June with myriads of old time *Centifolia, Damask* and other Roses of the eighteenth and nineteenth centuries, including the *York* and *Lancaster* Rose.—*American Rose Annual.*

The Flower Grower
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MADISON COOPER, CALCIUM, N.Y.

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Special favors to none, and a square deal to all.

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> *" He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers."*—ZOROASTER.

A Question of Credits.

As time passes the tendency is more and more toward doing business on a strictly cash basis. Years ago credits of six months or a year were common. These long time accounts were gradually reduced to thirty or sixty days and now many different lines do business on a strictly cash basis. This, we believe, is a healthy tendency and to a large extent eliminates inflation, speculation and risk.

While quite a portion of the business in the floral line is done on a cash with order basis, yet among commercial growers there seems to be a certain amount of long time credit being given. This should be eliminated or at least limited very sharply. While only casually acquainted with the commercial floral trade of this country, yet we know several instances during the past few years where the granting of credit has not only resulted in a severe loss to the creditors, but it has also resulted in the sustaining of what we should call a reckless and unfair competition.

Long time credits are a thing of the past. Short time credit should be used only where necessary and business done on a strictly cash basis so far as possible. If there are arguments in favor of long time credits we will be glad to hear from those who can see the other side of it more plainly than we can.

MADISON COOPER.

Exclusion of Foreign Plants.

After June 1st, 1919, according to the provisions of an ordinance signed by Secretary of Agriculture Houston, certain foreign plants and stocks will be excluded from importation to this country. The bill as drawn is for a drastic plant quarantine as a protection against the introduction of insect pests and plant diseases. The plants excluded among others include Irises, Gladioli and Peonies.

While it may be that damage has resulted from the introduction of diseases and pests on the foreign stocks, yet it is improbable that such damage has been serious enough to warrant the total exclusion of foreign plants for this reason.

This bill has been much protested and with good reason. While we do not wish to take sides in a matter of this kind we doubt the advisability of passing such an exclusion act. While it will doubtless be stimulating to the development of home grown material, yet it will work a hardship to foreign growers who have been accustomed to selling their product in this country. The spirit of the times is that principles of trade are worldwide and should not be considered from a purely national standpoint. Looking to the future it must be understood that reciprocity for mutual advantage is the key-note of trade, and, therefore, we doubt whether the proposed plant exclusion act is a judicious one looking at the matter from a broadgauged standpoint.

The florist trade talks of a fight in the courts and injunctions, etc., but such things move slowly and having an act of this kind actually at work, it is doubtful if anything can be done to prevent the exclusion as called for therein. It is probable, as it appears to us, that the injustice of the act will in time become apparent as well as the fact that it will really work a hardship to the horticultural and floricultural interests of this country.

Utilize the Wastes.

Mr. Spencer has something interesting to say on page 10 about utilizing the foliage of the Gladiolus plant. The editor has been dumping his Gladiolus tops year after year without thought, and although the quantity is small as he is growing under garden culture only, yet there is no reason why he, as well as other comparatively small growers, should not utilize their Gladiolus tops according to the suggestions of Mr. Spencer. It is probable that many people do not appreciate the value of all vegetable growth when properly composted. The resulting humus and fertilizing elements are of the utmost value when applied to the soil for growing crops. The making of a compost heap is a simple matter if carried out as suggested by Mr. Spencer, and the labor of cutting sods for same may be avoided if strawy or coarse stable manure is available, horse manure preferred. Efficiency in the garden is equally as important as elsewhere and surely the utilizing of Gladiolus tops, weeds and vegetable growth in general is desirable.

Naming Seedling Flowers.

The naming of seedlings is a subject which all Gladiolus hybridizers are interested in, and the selection of a name is of much more importance than might be apparent at first glance. As pointed out by the Glad Philosopher in the December issue, names should fit the flowers. There is a chance for as much skill and judgment to be used in selecting a name for a new seedling with individual characteristics as in any part of flower growing that we know of, and comparatively few originators have made happy selections, but it is much easier to criticize, perhaps, than to improve upon the names which have been given to some of the prominent varieties.

Anyway, there are altogether too many seedlings being named at the present time, and many of these without due knowledge on the part of the originator of what other hybridizers have done and are doing. We advise that no new variety should be segregated and named unless it has qualities of apparent and outstanding merit. Besides, there are so many fine seedlings being produced at the present time that no grower should waste time on varieties of mediocre quality. Don't be in a hurry to name new varieties. Give them a few years to demonstrate their longevity as well as beauty.

WAYSIDE RAMBLINGS

COLOR CLASS DETERMINATION AT FLOWER SHOWS.

In the September number of THE FLOWER GROWER I noticed a report of the show of the Massachusetts Horticultural Society held at Horticultural Hall, Boston, Mass., last August and sent in by Mr. Clark W. Brown. I do not understand some of the accompanying comments by Mr. Brown.

For instance, in the class calling for six vases of lavender or mauve, it is stated that three of these were distinctly blue and should have been disqualified.

I believe it is generally accepted that a Gladiolus of a distinct blue shade has not as yet appeared and at present there are no real blue Gladioli.

Whether or not they should have been disqualified seems to me to have been a matter best left to the judges and not to any personal opinion.

In the list of prize-winners at the Connecticut Fair printed in THE MODERN GLADIOLUS GROWER of September (1917), I note that in class of five spikes lilac, C. W. Brown won first with *Scarsdale*, and directly following, five spikes mauve, E. M. Smith won first, also with *Scarsdale*.

Who should be disqualified here, or is *Scarsdale* both mauve and lilac?

Mr. Cowee, the introducer, describes *Scarsdale* as pink-lavender shaded dark rose—which sounds like several different classes.

Returning to the report of the Horticultural show, I read: "Six spikes crimson, H. E. Meader, first, with *Purple Glory*, which is certainly a long way from crimson; Jelle Roos, second, also showing a variety which was anything but crimson. (See official color chart)."

Evidently the author has "seen the light" but recently for at the Connecticut Fair, just referred to, he received first on five spikes crimson, showing *Hazel Harvey* which the American Gladiolus Society describes as follows, as to color:

"*Hazel Harvey*—Stamen filaments reddish, anthers violet, color carmine-red, throat amber-white, pencilled carmine-purple."

No crimson here, seemingly.

There is endless matter for discussion and argument in this color question and I would submit that if Gladiolus growers should exchange the descriptions of the various varieties in their retail catalogues for the descriptions registered by the nomenclature committee of the American Gladiolus Society, the average person would be entirely confused as to really what color the flower was.

For instance, perhaps the best known variety of the Gladiolus, *America*, is described as follows:

"Stamen filaments pink; anthers lavender. Perianth lavender-pink a more rosy tint of mauve-rose, the color blending to almost white as it approaches the throat: the throat marked with Tyrian rose."

And this is only moderately complex compared with some.

Such terms as solferino red, carthamin-red, Tyrian rose, French purple, Naples yellow, etc., would seem to be considerably out of reach of the great mass of Gladiolus buyers who have no access to French color-charts, etc.

It seems to me that the question of deciding just whether a variety belongs in a certain class or not should naturally be left entirely to the judges appointed. To avoid argument, their opinion should be accepted as final as they represent the society by whom they are appointed.

H. E. MEADER.

LABELS FOR MARKING GLADIOLI.

I notice several devices mentioned in THE FLOWER GROWER for marking out Gladioli in the field. For several years I have used copper wired wooden tree labels, painted on one side. These are not expensive, are easily attached and can be used several times. The first year I write on the unpainted side while it is fresh; the next year, when this begins to be "weathered," I use the other side. Pencil marks are easily erased with the rubber end of the pencil. The manila paper slip-noose tags are not, to my mind, so easily attached and do not stay on so well. By twisting the wire hard, allowance is made for the shrinking of the stems after pulling and the different sorts of mark-outs, put into a box together, may be sorted out at leisure. If a bulb is put into a separate bag when dug the bag need not be marked and all the cormels are kept separate but unless it is something very choice this is not necessary.

GEO. S. WOODRUFF.

TIME TO DIG DAHLIAS—SWEET POTATOES.

I have been growing Dahlias more than sixty years. Many thousands of them some seasons, and for years have thought the best plan was as soon as the tops were killed by frost to cut the tops off close to the ground, and then cover the stubs an inch with soil and let the roots ripen as long as safe, perhaps two or three weeks, at least until there may be a crust of frost on the ground half an inch deep. I am convinced from long experience that the roots left undisturbed will ripen in the ground, and be heavier than if dug as soon as the tops are killed, and will keep through the winter better.

Most farmers and gardeners in this locality grow sweet potatoes for home use as well as for market. The custom has been as soon as the frost kills the vines, and these are nearly as tender as Coleus, to cut the vines from the plants and dig the potatoes at once. For several years past the more careful growers who use judgment as well as tradition, remove the vines at once, the morning after the frost kills the vines, and leave the tubers undisturbed for a few weeks, for the tubers to ripen in the ground. A person's experience sometimes coincides with tradition, but I have thought after digging a few hills of sweet potatoes soon after the first killing frost, and leaving the remainder a few weeks to ripen there was an increase in size as well as in firmness in those dug later.

E. Y. T. (Ohio.)

STORING DAHLIA TUBERS.

In a recent number of THE FLOWER GROWER were directions for handling and storing Dahlia bulbs over winter. The writer cautioned against breaking the neck of the bulb or tuber when digging. My experience in digging or handling Dahlias is that it is impossible to do it and not break or twist them to some extent. This fall I have cut them apart so that every tuber is divided and they are cut so that a part of the stem is cut with the neck and packed in a little earth or sand. It may not be the right thing to divide them in the fall this way, but I am trying it anyway to see the result which I will report next spring. I have sometimes bought Dahlia tubers that never would grow because the neck was broken or twisted.

PAUL P. KLEVANN.

PLANTING SPIREA VAN HOUTTEI.

When planting a Spirea *Van Houttei* hedge it is best to cut them off at an even height before planting. I prefer to cut them so they will be about two feet high when planted.

They should not be cut off the year after planting, but each year after that they should be cut back immediately after the blossoms fade. This does not want to be neglected for if they are not cut back as directed they will not make sufficient growth for a good display of blooms another year. If treated this way the hedge will always be neat and green, but if left without any care it will become unsightly in time.

Single specimens can be trimmed in the same way with just as good results. The height to cut them off varies with the size of the specimen.

If it should be dry at the time they are cut off they should be well watered so they will immediately start new growth.

WILLIS E. FRYER.

AGE AND GLADIOLUS CORMS.

I want to add my mite to the much discussed question of the age of Gladiolus corms. There is no such thing as an old Gladiolus corm. The old corm dies each year and a new one grows. Hence, one bulb is no older than another whether it grows from a bulb or bulblet. Therefore, why all the discussion on a topic which all know to be as stated above? L. H. READ.

THE ROSE

[*Written expressly for The Flower Grower.*]

The Rose—The Reigning Queen in Flowerdom.

By H. G. Reading.

FOR AT LEAST TWENTY-FIVE centuries the Rose has reigned with undisputed sway as "Queen of Flowers." Sappho, the Greek lyric poetess, born about 600 B. C., so proclaimed it, as the following translation of one of her poems will bear witness:

> "Would Jove appoint some flower to reign
> In matchless beauty on the plain,
> The Rose, mankind will all agree,
> The Rose the Queen of flowers should be."

Homer mentions the Rose in both the Iliad and the Odyssey. Isaiah honors it in a beautiful figure of speech, and in the Apocrypha, (Wisdom ii, 8) mention is made of crowning with rosebuds at feasts, a custom prevalent of the time. Indeed, as far back as history can be traced evidences are found that the Rose was the one flower pre-eminently employed on all great festal occasions, but the Rose of the ancients must have been far inferior to any of our Roses of modern times.

The cultivated Rose is supposed to have been introduced first in either India or Persia and to have found its way later into the luxurious gardens of the Greeks and Romans, and from thence distributed during the following centuries to the four corners of the earth.

Some form or other of the Rose has been found native to practically all countries of the world except those situate in the tropics and some portions of South America. The great family of tea-scented Roses are the progeny of two rather insignificant little Rose plants brought from China to England, and subsequently removed to France at the beginning of the 19th century. As its name suggests, the *Bourbon* Rose originated on the Isle of Bourbon. The *Musk* Rose was a native of Persia, and is the intensely scented variety from which the celebrated attar of Roses is manufactured in that country. The Rugosa Rose and also the Wichuriana, both of which on account of their vigor have become valuable to the hybridizer, are natives of Japan. The *Noisette* Rose, although named after a Frenchman, originated in our own America. The sturdy Hybrid Perpetual class is so universal that its exact origin is unknown; France must be credited with most of the earlier productions but England's climate has proven best for it, and the English claim this Rose as their own.

The *Centifolia* or so-called Cabbage Rose, the *Austrian Briar* Rose, and the common *Moss* Rose were all introduced prior to the close of the 16th century, but no real progress in Rose creation took place until about 1815, when the Empress Josephine of France made Roses fashionable, and caused diligent search to be made for rare varieties for her celebrated garden at Malmaison. With the exception of the two red roses, *Gen. Jacqueminot* and *Senator Vaisee*, there are few Roses of merit grown today that were produced prior to 1860, and a comparison of a catalog of twenty or even ten years ago with one of this year's will reveal the rapid strides that are being made in Rose improvement, as few of the names of our best roses would be found in a list dating only ten years back. A decade ago the Hybrid Perpetual class furnished practically all the Roses grown in the north, while the Tea class furnished most of those grown in the south, and professionally in the greenhouses of the tradesmen. Now, but few of either class have survived competition with the Hybrid Teas, the new class that combines the best qualities of both the others, and meritoriously enjoys the highest popularity.

Mr. J. Horace McFarland, in commenting on the universal popularity of the Rose, and the extent of her sovereign domain, writes:

> "There can be no question as to the extent of the dominion of the sweet and lovely Queen of Flowers! In all lands, autocratic or democratic, king-governed or ruled by republican forms, she holds her gentle court. It is significant that the very name itself is virtually the same in nearly all the languages now spoken in civilized lands. To ask in the local vernacular a question in which would occur the English word 'Rose' in France, Germany, Denmark, Norway, Sweeden, Italy, Spain, Portugal or Holland, would cause the same smiling and understandable response that one would expect as a matter of course in America or England. The only difference in all these lands is one of accent, or of adding the Latin termination to make the word 'Rosa.'"

The delver after knowledge regarding the derivation of the name so universally adopted for the Queen of Flowers has to regret the lack of available information. It is significant, however, that in many languages the same word stands for both the flower and the normal color that we describe in English as red or reddish pink; and so we may infer that red was probably one time the prevailing color of the Rose. And here again the evolution of the flower is showing rapid progress; no longer limited to such commonplace, established colors as white, yellow, pink, scarlet and crimson in their descriptions, our catalogues now announce an almost innumerable variety of the rarest and most delicate colorings, ranging from cream, ivory, straw and ecru through many such beautiful shades as blush, flesh, fawn, salmon, coral, etc., up to claret, maroon and amaranth. For many years the efforts of the hybridizers to produce a blue rose have been unrewarded. When this dream shall have been fulfilled, the royal wardrobe of our beautiful Queen will be complete.

"The Best Yellow."

[*Written expressly for The Flower Grower.*]

Happy in the thought that one is not treading on dangerous ground when merely voicing an opinion only allows me to briefly write about "The Best Yellow Gladiolus."

While there are several really good yellows, near yellows, blotched yellows and creamy yellows the ideal yellow variety apparently is in the distance. Or it may be in the hands of a hybridizer, who guarding his golden treasure, awaits the time of sufficient increase to meet the certain demand that will lead to near-fame and a snug fortune.

Someone speaks up: What's the matter with Kelway's *Golden Measure*? It is a beautiful thing of true Gandevensis type with bloom well placed and of good size. But from all indications and reports it is a very shy producer of bulblets. This in itself is evidence of a not too strong constitution. If this be error let someone with more experience with this variety set us aright. *Golden Measure* will not be much of a factor for florists' use until the present price of from $3 to $10 a bulb is somewhat reduced.

Glory of Noordwijk—mere handful of the original stock brought the price of a good farm. It was an immense creamy-yellow that unfolded its gorgeous beauty for a season or two then seemed to lose strength and size, a sad experience that often occurs to growers of seedlings. Have tried this variety for the past four years and have but few more bulbs than originally.

Sulphur King is a fine sort and certainly should be classed as one of the very best of the yellows, but in the ideal yellow we would hope for a larger blossom. *Canary Bird*, an old standby, while a small flower is worthy of growing. Not plentiful and always brings a good price.

Schwaben heads the list for rank growth and size of flower, but is pale in color and carries a brownish blotch. However, it has a lot of merit and will be much grown, especially for garden and vase decoration.

The popularity of *Niagara* is assured. When cut in the bud and bloomed indoors it is truly a grand flower, and for basket work is in high favor. Certainly no Glad is more graceful in form and the bloom as clustered around the tip ends of the spike makes it a leader for decorative effect. Coloring up under certain soil conditions is the one fault of *Niagara*. Then of course it is not yellow but a soft creamy thing just suited for design work and a florist's favorite.

Golden King is one of the best blotched yellows and *Yellow Hammer* a good light yellow, and a dozen more might be commented upon. But suffice to say, you worthy growers, give us a yellow at least four feet in height with blossoms as big as tea cups, in color a pure gold with a brilliance as of the noonday sun, and one that can be "spotted" by an enthusiast clear across a ten-acre field.

Joe Coleman.

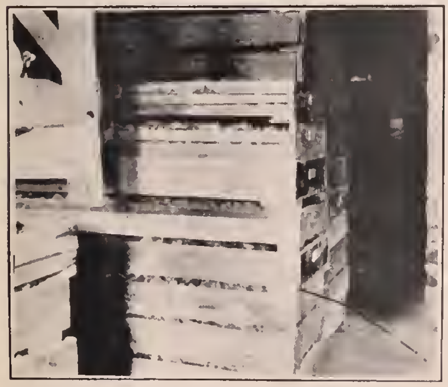
MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

More Flowers.

WITH THE "Holidays" barely over our thoughts are leaping toward the springtime and its gardens. We pore over the early catalogues and impatiently await the arrival of the tardy ones. We look over the seeds saved from our last year war gardens and with them comes, perhaps, the recollection of some mistakes, but we will profit by them and increase our plantings for we realize that the need of food this year is greater than ever for there's a hungry and destitute world across the sea that is looking to us for help, but our hearts are light, we stood the test last year and know that we can now meet the call that is coming to us. Our own soldier boys will soon all be with us again and we are anxious to provide for them an abundance of the best our country can produce, all of which again means *greater gardens.*

In our eager efforts to furnish more food we must not forget the need of *more flowers,* for the boys crave all that they were deprived of in the horror of war. Mother's cake and mother's flowers stand 50-50 now. Last year food had to come before flowers, and few flowers were planted in the war gardens, because we had not learned the need. I think even we growers who for years have raised flowers in quantity and love them so dearly, had not realized their full value. But stern war has proven, even to those who seemed to care the least, that *flowers are a necessity* for there are instances without number that have proved it. Thousands of our convalescents will especially need flowers so in addition to more food, we must raise *more flowers* in our gardens, and on early planning depends much of our success.



The Austin Gladiolus trays as stacked in storage.

The grower of Gladioli must look to his storage and see that the bulbs are keeping well, for that is the main thing in the Gladiolus business now. The weather of our fall and early winter has been so mild that one is quite likely to forget that it is very easy for the storage room to become too warm and damp, causing the bulbs to sprout thus losing some of the vitality. Look them over and stir them up and spread more thinly if necessary. A little warmth will not harm them if there is a good circulation of air. Spreading thinly in trays stacked one above the other, with good air space between, will keep them in fine condition. After some experiments we decided on the kind of tray illustrated as the lightest, most convenient and all around best tray for general use. These are made of light wood, $\frac{7}{8}$ inch stuff, 48 inches long, 18 inches wide and 4 inches deep. Bottoms made of builders' lath with a narrow strip across the bottom (on the outside) for support. A three cornered piece of wood 1 inch thick is tacked on each corner thus making air space when piled one above the other.

With proper preparation Gladiolus bulbs are among the very easiest of bulbs or tuber to be kept through the winter in storage, and because of its ease of cultivation, growing and blooming well in any good garden soil, it is one of the very best for amateurs. We will not have "War Gardens" this year. They are the gardens of the greatest victory the world has ever known. Well may we call them Victory Gardens. Grow food but add flowers and more flowers and brighten up that home, and show your joy of Victory in your flowers.

MRS. A. H. AUSTIN.

Some of the Newer Gladioli.

[*Written expressly for The Flower Grower.*]

We are at the end of an unusually good growing season in this vicinity and this brings me to notice that 25 or 30 miles sometimes makes a great difference in the weather and this seems to be independent of latitude or any other assignable cause. The hot weather of early August, which burned up Gladioli and some other things so badly about Des Moines, only scorched the open flowers here for a few days and was followed by plentiful rains and did not hurt the bulbs.

I tried a few varieties which were new to me except for a few sample bulbs. I planted 500 or 600 *Red Emperor* which I read is the same as *La Cordaire* (will some one tell me whether this is certainly true). The bulbs came from Holland and had been long on the way and had sprouted; so had to be planted rather early. This made the flowers come early but I understand that it is naturally one of the early sorts. They were most magnificent and this seemed to me the finest red of all. I had no others to compare with it at the time, but I still think it the most regal of the reds. The spikes were tall and straight, with a good number of flowers open at once, large and well opened.

Prince of Wales I had never had in any quantity though I had seen a few the previous year. The color is a lovely salmon, more orange in tint than *Halley* and without the markings of the latter. It is certainly a beauty but I am not yet prepared to say that I think it will supersede *Halley.* I have a great and growing liking for *Halley* in spite of its slender stem. I will suspend judgment, remembering how *Panama* was going to supersede *America*—and hasn't. Still it is certainly beautiful and quite distinct from any other.

Another gorgeous variety is *Goliath,* something like a magnified *Empress of India* but of a rich dark purple; very large flowers and many open at once. All these were early, much to my disgust because I wished to show them to my friends at the Iowa State Fair, which is held late in August. Only a few can go to the fields to see the flowers but the fairs give thousands the opportunity to see what there is and the display is a great surprise to multitudes.

Titanic was splendid and still stands without a peer in its class of color, as far as I know. It is something like *Mrs. G. W. Moulton* in color but a flat open flower and without the dots and markings.

I tried only a few of Diener's seedlings and planted them late but two of them were very fine. *Thos. T. Kent* is an immense spike of large, light colored flowers with something like sixteen open at once. *Anna Eberius* is unique; a tall, straight spike of what he calls "Nell Rose" whatever that is —but in the purplish class and very rich. I think very highly of it. As for *Thomas;* he made a sensation at the Cedar Valley Fair which was held late in September. I fancy that these giant varieties require rich soil and good feeding—or watering. Some of his seedlings, without names, planted in my home garden, were very fine, mostly in light colors and some with quite a tendency to ruffling.

I wish to speak in praise of *White Excelsior.* It is not new, having been sold, I believe, under several names, such as *Reine* (*Rene?*) *de l'Anjou, Reine Blanche,* etc., but I find it an excellent late white, habit of *Augusta* but a clean white of good substance. Perhaps if it were earlier it would attain greater popularity. I should like to know what others think of it.

Pink Perfection was glorious this year and had unusually good stems, especially the late ones from young bulbs. *Liebesfeuer* and *War* lived up to their reputations and *Mrs. Watt* did well but I wish it had a little longer head. Is it common for *War* to occasionally sport a white patch on a petal or two? Some of mine did.

GEO. S. WOODRUFF.

We understand that there are likely to be shipments of Holland grown Gladiolus corms coming through between now and planting time, but just how large these shipments are likely to be we are not informed.

THE PEONY.

Fragrant Peonies.

By W. F. Christman, in *Minnesota Horticulturist*.

It may be a matter of general interest to all to know that of the large number of named varieties of Peonies, only a comparatively few of them have a sweet scent or agreeable odor, as is that of the Rose, the Lilac or the Pond Lily. This matter of fragrance of the Peony is of special interest at this time, since it is the one feature of that flower which was last to be developed, and is, therefore, found chiefly in the newer high grade varieties. It is true, of course, that a few of the older varieties are sweetly scented, and it is noticeable that all of these have been perpetuated and have become prime favorites with every one. Dealers and growers of Peonies for profit have apparently begun to recognize the importance of this crowning quality of the Peony. The reason for this seems obvious, as stated above, out of the large number of named varieties which are offered for sale, perhaps not to exceed one-twentieth of them possess this charming quality, and if they attached the importance to this quality which, in the opinion of the writer it rightfully deserves, there would be small chance for the sale of the large number of varieties which possess the unpleasant odor, which one unfamiliar with the modern sweet scented varieties is apt to associate with the name of the Peony. If the reader will take the trouble to examine the various catalogues sent out by dealers and growers, he must be struck with the comparatively few varieties which are mentioned as fragrant. This, however, is changing and will, we believe, continue to change, since the demand for fragrant varieties is constantly increasing, and growers and dealers will be forced to recognize the potent force of this demand, and when it becomes generally known that the most beautiful Peony blossoms are those possessing a sweet and agreeable fragrance, the writer ventures to predict that the purchasing public will demand fragrant varieties only.

A long blooming period is just as easily obtained by a proper selection of fragrant varieties as by those that are not fragrant. Probably the earliest Peony to bloom is the single Peony, which is catalogued under various names, *Albaflora*, *The Bride* and *Fiancee*, all of which, it is believed, are substantially identical. Following this in time of blooming and among the well known varieties is *Madame De Verneville* and *Festiva Maxima*, then *Mons. Dupont*, *Couronne de Or* and *Marie Lemoine*. Of course there are many other varieties among which are noticeable, *Elizabeth Barrett Browning*, *Le Cygne*, *Emile Lemoine*, *Alice de Julvecourt*, *Aurora*, *Alsace Lorraine*, *Francis Willard* and *Florence Nightingale*..

Of the shell pink varieties, among the commoner and well known fragrant sorts is *Umbellata Rosea*, as the first and earliest to bloom, *Grandiflora Carnea Plena*, followed by *Albert Crousse*, *Bernard de Pallissy* and *Eugene Verdier*. Of the more expensive varieties of this color, which bloom in the order named are the following: *Judge Berry*, *Mons. Jules Elie*, *Therese*, *Martha Bulloch*, *Henry Avery* and *Ella Wheeler Wilcox*. This list of shell pinks does not include the so-called tri-colored varieties, which show three or more colors in the same blossom, and which are very striking and much admired. Probably the three best known fragrant varieties of this classification are *Jeanne de Arc*, an early variety, *Philomele*, a mid-season variety, and *Chestine*, a late variety.

The first of the fragrant, deep pink varieties is *Edulus Superba* and *Malene Henry*. They are followed in the order named by *Modiste Guerin*, *Duke of Devonshire*, *Augustine de Hour* and *Humei Carnea*.

Of the reds, the earliest fragrant red to bloom is *Rubra Officinalis* followed by *Richard Carvel*, *E. G. Hill*, *Madame Bucquet*, *Ben Franklin* and *Felix Crousse*. Of course it is impractical to name in this article the many different varieties that are in bloom at the same time. The purpose has been to choose different varieties as representatives of their particular period of bloom, merely to show that a continuous period of six weeks more of fragrant blossoms of every color may be had by careful and proper selection.

Peonies.

(reply to "Peony.")

These constitute one of the chief features of the hardy flower garden during the months of May and June, and too much cannot be said in their praise. They possess an exquisite perfume, and their large, handsomely formed flowers vary from the deepest crimson to the purest white.

Hardiness—The first point in favor of Peonies is their perfect hardiness. In the severest climates the plants require no other protection than that which they afford themselves. Then their vigorous habit and healthy growth, freedom from all diseases and insects, are important arguments in favor of their cultivation, each succeeding year adding to their size and beauty. The foliage is rich and glossy and of a beautiful deep green color, thus rendering the plants very ornamental when out of flower.

Position—The double forms of the herbaceous Peony rank among the best of hardy borders or shrubbery plants, although they are somewhat neglected—probably owing to the fact that they are so large that in small gardens they occupy too much room. There are, however, generally to be found, even in gardens of limited size, spots so much shaded that scarcely any plant will thrive in them. In such places Peonies would grow luxuriantly; the color of their blooms would, in many cases, be even more intense, and they would last much longer than flowers fully exposed to the sun. They may, therefore, be made useful as well as ornamental even in small pleasure grounds, although the proper place for them is undoubtedly the fronts of large shrubberies, plantations, or by the sides of carriage drives. Where distant effect is required, no plants so admirably answer the end, as their size and brilliancy render them strikingly visible, even at long distances off. Planted on either side of a grass walk, the effect which they produce is admirable, especially in the morning and at or near sunset, and when planted in masses, as, for instance, in beds in pleasure grounds, they are invaluable for lighting up sombre nooks.

Soil and Planting—Herbaceous Peonies succeed in any soil and in any position, but a good moist loam, particularly when enriched by the addition of cow manure, is the soil best suited to them. They can be planted at any time of the year, but from October to April is the best. Take care to have the ground well prepared for their reception by manuring and trenching it to a depth of about three feet, and on no account should they be planted nearer than four feet apart in each direction. They must not be expected to flower well before the second or third year after planting. They do not require to be shaded from the sun until they flower, when some slight shade prolongs and preserves their delicate tints, and also enables the flowers to become more thoroughly developed than they otherwise would be; watering the plants judiciously now and then, as soon as the buds are well formed, with liquid manure also greatly benefits them. It is likewise, of course, necessary when the tufts have become very strong, and have impoverished the soil, to separate and transplant them to fresh ground.—*Gardening Illustrated* (English.)

Catalogues and Price Lists.

Munsell & Harvey, Ashtabula, Ohio.—Single page price list. The better known and standard sorts priced by the thousand and the more rare and newer varieties by the hundred.

Austin-Coleman Co., Wayland, Ohio.—Wholesale list describes and illustrates the four Austin originations, *Gretchen Zang*, *Bertrex*, *Evelyn Kirtland* and *Herada*. Prices quoted by the hundred. Also, their list of surplus varieties priced by the hundred and by the dozen; also bulblets.

G. M. Reburn & Co., 172 N. Wabash Ave., Chicago, Ill.—Wholesale list of Gladioli, 23 varieties priced per hundred and per thousand. Also their florists' list of Cannas, Roses, &c.

Geo. S. Woodruff, Independence, Iowa.—Wholesale price list of Gladioli, the standard varieties and some of the newer introductions. Prices on various sizes and bulblets.

George J. Joerg, New Hyde Park, N. Y.—1918-1919 wholesale price list of Gladioli. Some of the better known and new varieties priced by the hundred and by the thousand with some of the rarer sorts priced by the dozen only.

H. E. Meader, Dover, N. H.—Wholesale list of Gladioli, some of the very best standard varieties and a number of the best new things including *Myrtle*. Also a special illustrated circular on *Myrtle*.

Fred W. Baumgras, 423 Pearl St., Lansing, Mich.—Eight page retail catalogue of Gladioli. Some of the rare and beautiful new sorts are included in this list. Also wholesale list with prices by the hundred on blooming sizes, planting sizes and bulblets.

Richard Diener Co., Kentfield, Marin County, California.—Edition for 1919 of their catalogue, 10 pages and cover, describing and illustrating Gladioli, Petunias, Pansies, &c. Also Diener's mammoth white corn. The Diener Gladiolus introductions are fully described and prices quoted by the single bulb, dozen and hundred. The cover is a beautiful colored illustration of one of Diener's monstrous Petunias.

A. E. Kunderd, Goshen, Ind.—Complete catalogue and price list of the Kunderd originations—48 pages and cover. Beautifully illustrated and containing much interesting matter and descriptions of the well known Kunderd varieties. While the catalogue is much the same as the one for 1918, Mr. Kunderd has explained that the prices are the same for 1919 as they were for 1918, and that a new catalogue was unnecessary except for new customers, and has requested those having the 1918 catalogue to preserve same for reference.

Bound Volumes as a Reference Library.

The four bound volumes of The Modern Gladiolus Grower (1914 to 1917 inclusive) contain more useful information regarding the Gladiolus, its culture, history and improvement than can be had from any other source. These four bound volumes also contain much useful information about other summer-flowering plants, but the Gladiolus is especially well covered. These volumes contain the W. W. Wilmore, Jr., articles entitled, "The Gladiolus Manual." All information is quickly available by means of an index in each volume, and those who are interested in studying the subject cannot afford to be without these bound volumes. There has been no advance in the price. We are still furnishing the four volumes postage prepaid for $5.00. Furnished separately at the same rate, $1.25 each. Those who are interested in studying the practical and scientific features in connection with growing Gladioli should surely have a complete file.

Don't forget to watch your thermometer in the bulb cellar. We will have cold weather before planting time.

The Glad Philosopher's

At a certain period in every man's life he undergoes a change in his nature; he begins to realize that he has an innate craving for better things; paradoxically expressed, he sobers up and settles down and emerges into a more sensible existence; he now turns from the follies and foibles of life, and devotes the attention of his mind to things that are worth while; the mysteries of nature begin to attract and interest him as they never did before, and he has a craving to know her inmost secrets. This craving of nature sometimes has a tendency to lure him to the soil; he sees new beauty in the flowers, and there comes a longing in his heart to grow them for their companionship, and for the enjoyment they may give to others. He has become a gardener and, likewise, a benefactor.

Shakespeare missed his opportunity when compiling his immortal "seven ages," by not recognizing that epoch in every man's existence when he turns from trivial things and begins this new experience. "And then the gardener" might have fittingly begun another clause in that celebrated rhetorical masterpiece.

Doubtless, Shakespeare's omission of complimentary allusion to that time in man's life when he turns his mind to sober thoughts, was because in his day more than in our own, men did not abandon frivolity until their lives were well spent. The gravedigger, in Hamlet, whose grammar is more faulty than his observation, muses: "There is no ancient gentlemen but gardeners * * * they hold up Adam's profession." It is therefore probable that gardeners in Shakespeare's time shuffled their way across life's stage as "lean and slippered pantaloons," whose "manly voices had turned again to childish treble."

As we reflect that Adam was in truth the first gardener, we are reminded that God placed him in a garden, called Eden, that his happiness might be complete, and only drove him from it as a punishment for his sin of disobedience, and to this day the name of that garden symbolizes the ultimate of human happiness.

Those of us, who, lured bv the goddess Flora, have been brought under the spell of the garden and imbued with its spirit, can better understand how great must have been the happiness of man before he sinned and how severe the punishment of his paradise lost.

The Glad Philosopher rejoices that he lives in a time when floriculture is neither considered effeminate nor adjudged to be only fit occupation for the aged. Capable of returning such measure of reward in healthful enjoyment, gardening appeals as most appropriate for our life's best years, and when earnestly adopted either as a vocation or a hobby, proves to be the very best means of deferring old age with its attendant senility—pathetic denouement!—that "last scene of all" that ends man's strange eventful history.

THE GLAD PHILOSOPHER.

Rock Gardens.

[From Minnesota *Horticulturist.*]

England probably has the most wonderful rock gardens, for the people have utilized their naturally stony ground to the fullest extent and have some gorgeous effects as a result. Our own New England, with its boulders and rocks of all kinds, has for years been trying, at great expense, to blast and break and dig them out and to make in their place formal lawns, when the natural beauty of the surroundings could so easily have been maintained by the informal planting of their rocky ground. They too have found this out and are producing some beautiful rock gardens. Most of us have some spot that simply will not conform to our idea of beauty, and perhaps a rock garden there might solve the vexing problem.

Of course the most desirable rock gardens are the natural ones. I have in mind two spots in neighboring places where I long to make such a garden. One is a little cove with huge rocks deeply imbedded in a tiny spring, with a group of three immense trees at the head, a most ideal place for a rock garden. The other is a fascinating little stream flowing in a winding manner through a broad expanse of meadow land. An uneven rocky border would wonderfully transform the spot.

Beautiful artificial rock gardens can be made with very little trouble or expense by selecting rough field stones, the flatter the better, and sinking one-third of the rock in the ground to insure a firm foundation. The spot should be slightly sloping, not too shady and without hollows, as Alpines cannot stand stagnant moisture. Leave the cracks and crevices for the Alpines to grow deep in and for the moss to creep in.

Do not let your garden begin nor end too abruptly; lead up gradually to it by the use of odd shaped rocks, as an approach to the garden proper. The simplest rule is to follow nature as much as possible.

There are many styles of rock gardens to follow, but the conditions on your place must guide your selection. A pleasing form is the wall garden, used wherever a bank or retaining wall is needed. No mortar is used as that hinders the very effect desired, that of the flowers growing in and out of the fissures and cracks. In laying each stone keep a backward, downward slope for drainage. A hollow tile may be inserted to form a little waterfall.

Another style of rock garden is the border garden. This is the foreground for a formal or informal border and should be one-sixth the width of the border itself. Thus, if you have a twelve-foot border planned, use two feet of it for a rock border. Lay the stones very irregularly and plant with flowers of varying heights, to keep the irregularity. A charming effect can be made where one has a terrace, by making uneven steps, wide enough for use as such, and planted with low growing Alpines, vines and moss.

Rock gardens may also surround water gardens and bog gardens, by the use of flat rocks as an irregular outline, rather than the straight cement edges more often used.

Pathways may be made into rock gardens by using broken pieces of cement sidewalks or very flat rocks sunk in the ground in a very hit or miss pattern and planted with low growing Alpines.

There are two kinds of rock garden plants, Alpines and rock plants. Alpines, as the name implies, grow in the Alps, while rock plants include Alpines and also plants from all parts of the temperate zones which are suitable for rock gardens. The literature on this subject groups all rock loving plants as Alpines, since many of the real Alpines grow in our own woods and on the mountains of our own country.

Perennials and self-sowing annuals are used in planting rock gardens. Avoid anything that gives the effect of excessive work or expense.

Small evergreen trees, shrubs and vines, as well as moss, give the effect of age, which is so desirable in rock gardens. Pitch pine trees, daphne cneorum, or garland flower, Virginia creeper, bittersweet, wild clematis, Kenilworth ivy and wall pepper are most suitable for this purpose.

For rocky woodland use dog tooth violets and all other varieties of violets, hypatica, maiden hair ferns, spring beauty, bloodroots, bluebells and wild crane's bill.

For rocks exposed to full sunshine use dwarf irises, columbines, allyssum, saxifraga and sedums. For tall Alpines use columbines, St. Bernard's lily, bush clematis, bee larkspur, foxglove and saxifraga.

The dwarf Alpines offer the following varieties: hypatica, wood anemone, snowdrop, windflower, gentian, harebells, Alpine asters, forgetmenots, Iceland poppies and lily of the valley.

Hardy perennials usually classed as Alpines but suitable for rock gardens offer the following choice: phloxes, especially the creeping Phlox, Shasta daisy, Spireas of all kinds, primroses, stone crop, or sedums, portulaca and rock cress. Alyssums are very popular, as are the dainty gypsophila and the little scilla bifolia, which often peeps through the snow to remind us of the approach of the longed for spring.

There are many more, but time will not permit mentioning them. With such a wide range to choose from one can have a charming garden with as little or as much expense as desired and, having once planted it, just keep it free from weeds, and it will be a "thing of beauty and a joy forever."

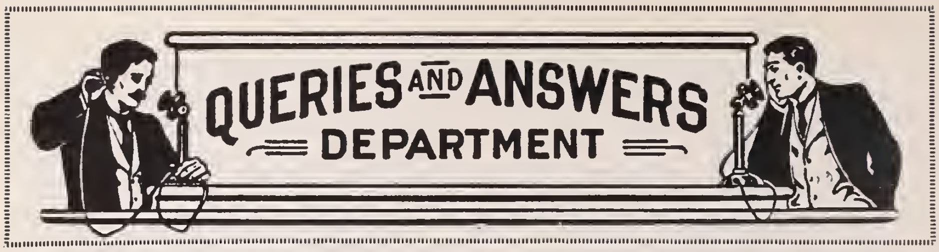
There is a delightful zest in trying new things, or, since there is no new thing under the sun, in trying new ways of doing old things, so I prophesy a run on rock gardens this year. Here's success to them!

The Common Sunflower.

Fashions in Flowers, as in other things, seem to change, and so some old-time favorites, common to the gardens of our grandmothers, are no longer in vogue.

One of the plants that has been "pushed back" is the old fashioned Sunflower. But really, nothing could have been more fortunate, for in no other position does the tall growing Sunflower show to greater advantage than in the back-ground, or planted among shrubbery. Here its bright golden flowers, that appear coarse and gaudy at close range, gleam and glow like disks of burnished gold, and possess a charm that is all their own. If the flowers are gathered before they become too large, their bright color and lasting qualities make them quite desirable for decorative purposes. It is surprising how a bouquet of these gay flowers will brighten a dim hallway or a dark corner.—BERTHA BERBERT HAMMOND in *Park's Floral Magazine.*

We have heard more boasting about quality of Gladiolus corms grown during the past year than common, and it would seem that the quality is much above the average. This may be owing to weather conditions or to more scientific culture.



[This department of THE FLOWER GROWER is intended to be one of its most helpful and valuable features. All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication.]—EDITOR.

Excessive "Tinting" of Gladioli.

TO THE EDITOR:—

Can you tell me through the columns of THE FLOWER GROWER why so many Gladioli came variegated this season, both early and late? It seemed no difference in time of planting, where several bulbs of a kind were planted together, sometimes one or two would show variegation: *Halley, War, Orange Glory, Mrs. Francis King, Crackerjack, Evelyn Kirtland, Spinx* and many others. While the variegation was pretty and odd, is it a disease? Last season just two bulbs showed stripes. This year so many. Will those be normal next season? The ground was covered with stable manure last fall, plowed under; wood ashes sown over this spring, fertilized in rows with sheep manure, well cultivated.

MRS. G. W. BAIN.

Answer:—What you refer to as "variegation" is what is commonly known as "tinting." This means a coloring, streaking or mottling of certain varieties which are subject to this and applies particularly to the light colored varieties. As we understand it, it may be caused by an excess of potash in the soil and from the fact that you have used wood ashes it may be that this is the cause of the unusual condition in your plantings for 1918. I also understand that extremely warm weather with plenty of sunshine is likely to cause tinting especially if it follows periods of heavy rainfall.

If any one can throw additional light on this subject or if they have opinions or ideas we would be glad to hear from them.

Division of Gladiolus Corms from Age.

TO THE EDITOR:—

In taking up my Gladiolus corms in November I was surprised to find that about one-third of the plants had each of them two corms of ordinary size, but generally one corm is smaller than the other. A few of them were about equal size. Several had three corms and one had six corms, each about half an inch in diameter. As I had previously found but one corm to a plant I am curious to know if the multiplication is usual and if not, the probable cause in this instance. Can you inform me? M. A. S.

Answer:—The division of corms you have experienced is not at all uncommon. It is the natural result with most varieties as they become older. While division of corms does not necessarily mean old age, as many varieties divide in this way naturally, yet as a general statement division in this way means that the corms are growing old. The fact that you state that previously you have found but one corm to a plant would indicate that you must have had stock for some little time. Whether divisions are as strong for bloom another year or not is still an unsettled question, and this has been discussed in past issues of THE FLOWER GROWER and THE MODERN GLADIOLUS GROWER. Further careful experiment is needed along this line.

Cause of Crooked Gladiolus Stems.

TO THE EDITOR:—

What causes so many spikes of the Gladiolus to grow crooked this year? Quite a number of *Halley* are crooked, and other varieties not yet in flower are showing a good percentage of crooked spikes. P. G.

Answer:—*Halley* is inclined to make crooked spikes during most any season. This is a weakness of this particular variety. The cause of crooked stems is commonly excessive heat or bright sunshine and especially following a wet time. There are times when even some of the most upstanding varieties will make crooked spikes. On the other hand, with uniformly cool weather at blooming time the weak stemmed varieties like *Halley* will develop a reasonably straight stem.

Utilize the Gladiolus Tops.

[*Written expressly for The Flower Grower.*]

In gardening as well as in farming it is a good rule to return to the land as much as possible of the crop which we take off of it. The piles of Gladiolus tops left in the field after the crop of bulbs is harvested are generally considered of little value. They cannot be used as food for cattle, they do not decay readily, they are tough. bulky, and hard to handle, but they will yield, if properly composted, a considerable amount of good fertilizer which can be returned to the soil.

I usually let them stay in piles in the field for a few weeks till they are moist and soft, then gather them into one or two big stacks with a layer of sods on the top to hold moisture. In the spring these piles will be quite soft but too stringy to use as fertilizer. If left as they are another year they will be well rotted but the product will be very sour, and it will pay to take a little time and labor to get better results by composting with lime, either the refuse from tannery vats or the ordinary agricultural lime of commerce. For this compost I like to get a quantity of sods, loam, or muck. Horse manure if available would be excellent. Pile up the sods and half decayed tops in layers with a bushel of lime spread over each layer to aid the decomposition and keep it sweet.

During the summer add to this pile lawn clippings, weeds, if they have not matured seeds, tomato or bean vines, potato tops, any vegetable refuse which will decay readily, mixing in an occasional wheelbarrow load of loam or muck.

Last fall I used such a compost to mix with an equal amount of hen manure and the following spring this material was in fine condition and made a well balanced fertilizer, as decayed vegetable matter is rich in potash, and hen manure has a surplus of nitrogen which is absorbed and held by the fine humus of the compost.

A similar combination with any coarse green manure would be excellent. If the compost is not used in this way fork it over once and let it remain till spring when it can be spread on the field after plowing.

Sifted coal ashes may be used in the compost as an absorbent and filler. They have little fertilizing value. Wood ashes are rich in potash and lime and should not be mixed with any fertilizer or manure. Spread them on after plowing. There is nothing better for a bulb crop.

The rubbish which is left after cleaning the bulbs should be composted separately and used on the garden or potato patch. This will avoid all possibility of carrying the infection from diseased bulbs back to the field.

Corn stalks are good material for the compost heap, but if there is any danger of the presence of corn borers burn them and save the ashes. Burn all brush, rubbish and weeds that have gone to seed, and scatter the ashes on the field.

S. E. SPENCER.

In Our Glad Garden of Delight.

[*Continued from page 1.*]

It has been my good fortune to have seen rare orchids in the south, exquisite in color and indescribable in beauty, but they are only for the favored few, while the Gladiolus is within the reach of all.

If you wish to start the day right, go out in the early morning and walk down the rows of Gladiolus blooms. Dull care will flit away and you will go back to your daily tasks refreshed in mind and body.

We need food for the soul and God has given us the Glads for just such a feast, and happy the man and woman who dine off such fare. Would that we could persuade others to do so.

Gladiolus corms may be shipped in pretty cold weather if packed in corrugated paper boxes well lined and double wrapped. Comparatively large packages are much safer against frost than smaller ones.

The Uncertain Outlook for Commercial Florists.

The situation in the flower business at the present time is quite out of the ordinary, and, in fact, unprecedented in a great many years and in its peculiar conditions of insufficient supply and uncertain immediate outlook, all over the country, is reminiscent to the older members of the craft, of former days when the normal production was far below the demands for the holidays and all kinds of expedients had to be adopted in the effort to meet the emergency. As one of the results of the situation, it is evident that prices will run on a higher level than at any corresponding time heretofore. Unfortunately the American public have been badly educated in the matter of winter flower values and may now prove reluctant to meet the prices which, for many reasons, seem inevitable for Christmas. Time will tell, and much will depend upon the attitude which the retail florists themselves shall maintain in their dealings with the public, as to whether the florist will be met in a spirit of toleration or with a public resentment that might unfavorably affect the business during the whole season. Instead of throwing blame on other departments of the business let each one, through the local press and when called on by customers for an explanation, frankly place the cause where it belongs, on the commercial restrictions endured during the past two years, including the limited fuel supply, the embargo on supplies from abroad, the insufficiency of help, and other factors that have caused the compulsory closing up of a considerable portion of the greenhouses which have been a main dependence heretofore, and all of which has resulted in a very much reduced supply and enormously increased cost to produce. The habit of railing at the practices of other departments of the business which has been all too common in the past should be avoided. Outside influences beyond our control are largely responsible for the situation which now exists. Pass that fact around. - *Horticulture.*

Munsell & Harvey, Ashtabula, Ohio, have sent us five corms of their new seedling, *Ashtabula*, illustrated on our front cover page this month. They are beautiful large bulbs and especially clean and plump. They write that *Ashtabula* has exceptional vigor and freedom from disease.

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THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

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FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
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Planning Gladiolus Planting for Color Effect.

[*Written expressly for The Flower Grower.*]

By Chestine Gowdy, (Minnesota.)

"GIFTS THAT GROW are best." Some oft-repeated statements merely sound true. Others really are true. In my experience this one has proved to contain a big element of truth. As there pass before my mind a long list of gifts that have brought me lasting pleasure, I count not a few that have literally been gifts that grew, and one of these was a wonderful box of Gladiolus bulbs. I cannot speak of this particular gift as "corms." My box came in the spring, but its welcome had been prepared the summer before by the arrival of another big express package. This contained great spikes of bloom—pink, white, rose, crimson, scarlet and soft blues and lavenders. I had never before possessed such a wealth of color.

I planted my bulbs with high hopes, but with some misgivings also. I could not be quite sure that anything I might plant could produce such wonderful flowers. But my hopes were realized, and from that time to this I have planted Gladiolus bulbs without misgivings. I still have descendants of those first bulbs, transplanted from Illinois to Minnesota; but each year new varieties have been added to my store. And so every summer I look forward to the arrival of old friends and watch anxiously for new faces.

I plant my bulbs for two distinct uses. Hundreds are lined out in rows in the garden, where they can have the sun all day and can be easily cultivated. These are for cut flowers, for my friends' houses as well as my own must be made bright with their blooms. Others go into the borders. Here, if well placed, they add color and stateliness during the latter part of summer and throughout the fall.

I have found that it takes considerable thought and experience to get entirely satisfying results from border plantings. Background, foreground, color combinations, season of bloom, possibilities of sunshine, all must be taken into account. Each year I try to get some new and pleasing effect. This year I accomplished a beauty spot that was a joy for at least two months. I chose an open spot in the border with only a shrub or two in the rear. For the foreground of this part of the border, I had already planted perennial Phlox. There were several of the best pinks, shading from blush to a bright rose, and a few plants of pure white. For a background, I set one early Cosmos, and the Asparagus bed happened to be behind them. Between the Cosmos and the Phlox I planted my group of bulbs.

GLADIOLUS—*MRS. W. E. FRYER*
(left and right.)
GLADIOLUS—*WILLIS E. FRYER*
(center.)

This photograph was made from bulblet grown stock, and, therefore, does not do justice to either one of the varieties illustrated. Both these varieties were originated by A. E. Kunderd, Goshen, Ind.

Mrs. W. E. Fryer is a very showy orange scarlet variety and especially valuable as a bedding plant, having a spreading habit of growth and with beautiful dark green foliage.

The variety *Willis E. Fryer* is a large, deep violet. It is a tall, strong grower and a good multiplier.

There were in the neighborhood of a hundred of them and I placed them about four inches apart. For the most part they were inexpensive varieties. I wanted good color and succession of bloom; but I couldn't risk rare sorts where they would not have the best garden conditions. There were *Chicago White* and *Peace* for early and late white; *Glory* for cream; *America* for pale pink; *Taconic* for deeper pink; *Independence*, cheap but softly brilliant; and a few bulbs of *Dawn*, a bright coral pink. Not one of the real scarlets was admitted to this company. They have their place, but they did not belong here.

So far I had planned for results. But one of the happy accidents that sometimes befall the gardener made the whole thing perfect. The year before, I had had a few plants of Snow-on-the-Mountain in the neighborhood; and seedlings came up among the Phlox plants and in front of them. These softened the somewhat stiff foliage and stems of the Phlox, and blended the colors in an indescribable fashion.

I still have the picture with me—all pink and white, and rose and soft green. The stately spikes of Gladioli surrounded by the feathery foliage and delicate flowers of Cosmos, Asparagus, Phlox and Snow-on-the-Mountain. Not far off, a few sprays of sky blue Larkspur, the late crop of bloom, give the needed contrasting but harmonizing note. As I write, I look from my window to the snow-covered spot where all this loveliness was, and I plan for another summer.

Hybridizing and Crossing the French Iris.

By William Rollins.

(Reprinted by permission from *Horticulture*, Boston.)

SPORTS.

Iris in a garden which has been prepared as directed in this letter is sure to sport, and that is one reason why the land was made so rich. The present arrangement of the parts of an Iris flower of the type with erect segments to the perianth is so perfectly beautiful, it cannot be improved. If, therefore, the sport results in any change in the position or number of the parts of the perianth, using this term in its strict sense, it should be discarded. Some kinds of Iris have a considerable tendency to thus sport, and where the ovary shows signs of having more than three divisions, and there are more than three stigmas it is possible to get a new type with more segments to the perianth, and at length to get this type to breed true. In my garden this has been true more frequently with the form named *Kharput* than with any other, I imagine, therefore, that this variety is in what de Vries calls the mutating stage, or is brought to this condition by high cultivation; a mutation plant is one that gets children that differ in more than one feature from the type and breeds true.

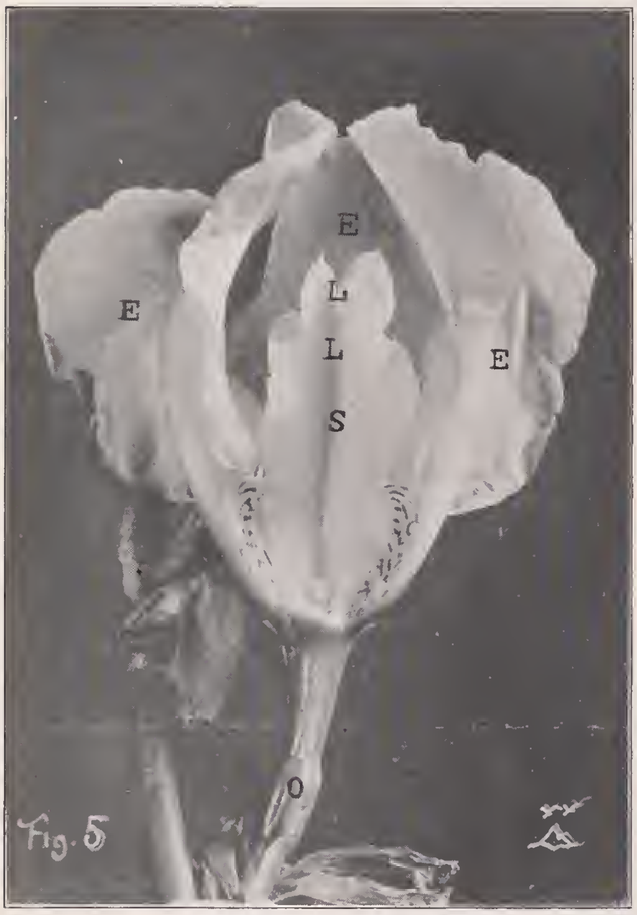

Fig. 5

THE THIRD STEP

consists of writing on a painted wooden label, the date, the names of the parents, or a sign to indicate this, and the number the flower is to have in the record book. Then attach the label to that particular flower, and make the record. Before leaving the flower, strip back the bud sheath—B S—Figure 5—to prevent the water it will hold after a rain from injuring the developing seed pod. Then pass on, leaving the fourth operation to the plant.

THE FOURTH OPERATION.

This you delegate to the flower. Soon after a vigorous pollen grain touches the sensitive surface of a stigma it begins to develop a tube which, lengthening, grows down through the tissue of the stigma until it reaches an ovule—shown in Figure 3—as one of the white dots in the ovary O. The end of the tube then opens and out come two bodies, the sperms, one of which unites with one part of the ovule and the other with another. This is the double fertilization of which you can find an account in the recent books on botany. When complete a new individual has arisen. In the case of a cross between plants having differences, the plant when developed will have some of the characteristics of each parent and the ability to transmit these, though not always in the same combinations. Generally, with the common garden Iris the results will be different from what you expected. Years ago I bought Pallida *speciosa*. From its name you would have thought it was surely the type of a true botanical species. Would you not have supposed Pallida *Dalmatica* was a true species from Dalmatia, and Pallida *Australis* a true species from Australia? In my garden they were not any of them true botanical species, as they did not breed true when protected from Vicinists, that is other varieties of Iris. Beside Pallida, Iris comes to us under such apparently species names as Junonia (another name at one time for Pallida), Sambucina, Jacquiniana, Trojana, Cypriana, causing the beginner to suppose that if he raises seed from these he will get plants like the parent; but if his results are like mine he will get a series of severe jolts. They will show him what a long and at times weary journey must be taken to learn Iris genealogy. Yet this must be pursued to the end before crossing can be on a scientific basis. Science is only a technical name for the collected results of accurate observations, and we gardeners become scientific men as soon as we observe accurately.

A TYPICAL FRENCH IRIS.

In Figure 1 is shown a Lily of France of the form we should strive to reach and perpetuate. It belongs to a group to which I have given the name Athena. The flower resembles that of Pallida *Dalmatica*, but the last trace of purple that injured the drooping segments of this flower has been bred-out leaving the whole flower a clear uniform pale lavender blue, the Bleu Lavande, No. 204 of the Repertoire de Couleurs of the Societe des Francaise des Chrysanthemistes; though the shade is lighter than No. 1. The flowers are nearer together than in *Dalmatica*, making the stalk more impressive. Like most of the other species described in papers classifying Iris, this group does not form a true botanical species. The name was chosen to represent a new horticultural group, and used with this understanding is convenient.

TIME BETWEEN POLLINATION AND FERTILIZATION.

This period differs greatly in plant species from a few hours to many months. In the French Iris, in warm sunny weather it is thirty-six hours in my location—New Hampshire, latitude 44 N., elevation eleven hundred feet. In forty-eight hours the stigmas will have wilted to the state in Figure-7-at-A-, in six days to that at B-, in seven days to that at-C-. In nine days the developing ovary will begin to look like a seed pod, as shown at D- in the same figure. Go over the rows every morning, cutting off the stigmas that have reached the condition B-, at the level of the stumps of the perianth segment. The object is to prevent dew or rain from injuring the developing seed-pods, as they will often do if allowed to remain in contact. When the dried stumps of the sections of the perianth have reached the state at -D- cut them off at the dotted line in the figure.

DON'T

pollinate Iris flowers when wet with rain or dew, or when rain seems near. Avoid pollinating in intensely hot weather, for then the stigmas wilt so quickly the pollen tubes do not reach the ovules. Again, a very wet season may cause a total failure. This happened to me in 1915. Out of several thousands of crossings no satisfactory seeds were

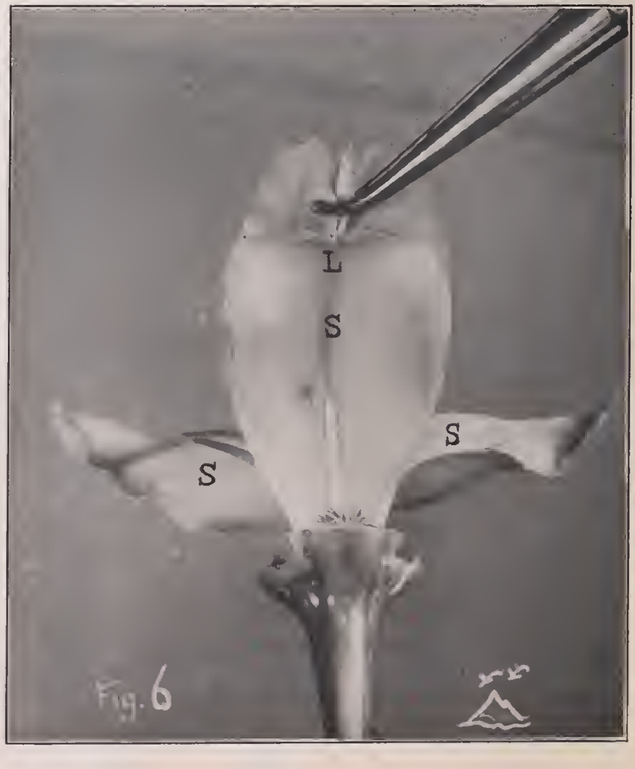

Fig. 6

saved. Of course there may have been other causes that were overlooked, but previous wet seasons had suggested dampness as the chief cause of failure.

BAGGING THE CROSSED FLOWERS.

In directions for hybridizing you will find statements showing the necessity of keeping the crossed flowers in paper bags. They are an awful nuisance with Iris and with this flower not absolutely necessary. Better cross so many flowers, the cases of accidental contamination will not seriously affect the records.

WHAT PROPORTION OF POLLINATIONS WILL SUCCEED?

This question could only be answered by a dreary lot of statistics, as uninteresting as Homer's catalogue of ships or Whitman's list of occupations in Leaves of Grass. Moreover, the results of one man's work might differ widely from another with climate and other factors. What may well be written is that some crosses are more successful in my locality than others. As an example, Kochii is named. Desiring to get its magnificent color in a tall, large flowering plant, it was crossed several times with some of the finest strong growing kinds, including some very vigorous hybrids raised here. One year fifty fine seed pods formed, but they were later found to be hollow shams, containing not one good seed. In other years the results were no better. *Purple King* looks like a *Kochii* hybrid, but as it has lost the deep tint, it has been cast out of my garden. We need a tall growing large flowered Iris, the color of *Kochii*; another with the upright segments white and the falls like *Kochii;* and another with the colors reversed. Who will breed it for us?

(To be continued.)

Storming the Iris Foe's Trenches.

Early in 1917 our Iris germanica began to show yellow stalks, to decay at the crowns of the bulbs. Pulling away a yellowed stalk, we found clinging to its butt a big, yellowish, dirty, but very efficient appearing grub. Examination of an infected stalk showed that a moth had incised it, depositing between the green layers, well protected, her eggs, about $\frac{1}{8}$ inch in length. The larvæ from these, hatching, had bored straight down the stalks, growing as they gnawed, on the bulb crowns, there to chew and chew. One bulb hollowed out, they went to the next. And so on. Clearly poisons were of no avail, as the pest was covered all its life. What was to be done? We solved it by cutting out each gnawed bulb, exactly as one cuts out apple tree borers. By being ruthless in pulling yellowed stalks and by using the knife freely on gnawed bulbs, we routed the foe. Clean tilth helped. Air-slaked lime made the cuts heal and wood ashes and soot helped to make it unpleasant for the routed pests that we missed when they crawled out to seek new pastures. We won. Now for something better than cure—prevention: (1) Plant Iris only in soil that has been cultivated at least two years. None of ours on old soil were attacked. (2) Inspect stalks each day and on the first sign of an attack, cut, intelligently, but thoroughly. (3) In fall see that each flower stem is off the bulb crowns and *burned* before October 15th. These hollow tubes are handy lurking places for these pests. (4) Lime the base of the germanica Irises. (5) We found the Spanish, English, Persian, Siberian, Japanese and native Iris (blue flag) immune. (6) The pest, forcing us to fight it, so made us put our Iris clumps in a thorough condition of defense. Fighting one pest, we fought all. The few germanicas we lost have been offset by the betterment in all the other kinds, due to finer defensive culture.—
—ESTELLE M. GILBERT, in *Garden Magazine.*

Trees and Shrubs for Screens.

Winter is a good time to plan for Spring planting, because it is a season of bareness, and a need for trees and shrubs highly accentuated. It is the season when the question of suitable screenings to shut out views of inharmonious objects may well be considered, for the object ugly then approaches the gruesome stage.

The selection of trees and shrubs for screens is, naturally, governed by the circumstances requiring their use. We will suppose that a newly erected water tower is to be screened. In such a case we need something which is rapid in its growth, and the Poplars, or the Silver Maple suggest themselves as particularly suitable. If space will permit, the use of these is easily decided upon, with evergreens for a front planting. The evergreens should be planted at some distance from the Poplars or Maples, as they are to form the permanent screen; a few large shrubs, such as Mock Orange, Honeysuckle, Golden Bell and the like, are splendid as fillers.

Where laundry yards, or low buildings are to be screened, the choice of trees would depend to a great extent upon the season of the year during which the residence is occupied. If it is an all-year-round occupancy, evergreens are most desirable.

Of the Poplars, the *Lombardy* variety, perhaps, is most useful for screening, but in some localities it does not thrive well, and in such cases it might be well to use the White Poplar, the true P. *alba*, as its common variety, *nivea*, while useful for foliage effects in large plantings, is rather objectionable for use near streets, on account of its soot and dirt collecting proclivities.

The Paper, or Canoe Birch, soon covers wide spaces, and when allied with Pines or Hemlocks is especially attractive.

The Willows are capital for screens, and the range of types and habits makes them both effective and attractive. It is not essential that they be planted near water, although the growth is more rapid in moist ground. The Kilmarnock Weeping Willow forms a splendid contrast when planted with the red-branched Dogwood, *Cornus alba.* To obtain the height of color in the Dogwood, the previous year's growth should be cut back quite hard in Spring; it is the young wood that forms the bright color.

The common Elderberry is useful for screens, and when planted near the Purple Plum, *Prunus Pissardi*, the white, lace-like flowers of the Elder are seen to great advantage in contrast with the purple foliage of the Plum.

The Planes may be used to advantage where a great width of screen space must be covered. The varieties *Occidentalis* and *Orientalis* are best.

The *Catalpa, speciosa* variety, will grow into quite a large tree in a few years, but requires shrub plantings at its base to get a close screen effect.

Spring is the best time to plant deciduous trees such as those mentioned in this article. While some planters prefer the Fall, a majority favor Spring, for then a tree is in a dormant state and establishment is easy. Those favoring Fall planting do so under the theory that the earth has stored up sufficient warmth to allow of establishment of roots before hard freezing sets in.—*Floral Magazine.*

Bound Volumes as a Reference Library.

The four bound volumes of THE MODERN GLADIOLUS GROWER (1914 to 1917 inclusive) contain more useful information regarding the Gladiolus, its culture, history and improvement than can be had from any other source. These four bound volumes also contain much useful information about other summer-flowering plants, but the Gladiolus is especially well covered. These volumes contain the W. W. Wilmore, Jr., articles entitled, "The Gladiolus Manual." All information is quickly available by means of an index in each volume, and those who are interested in studying the subject cannot afford to be without these bound volumes. There has been no advance in the price. We are still furnishing the four volumes, postage prepaid, for $5.00. Furnished separately at the same rate, $1.25 each. Those who are interested in studying the practical and scientific features in connection with growing Gladioli should surely have a complete file.

Exact information based on practical experience is what THE MODERN GLADIOLUS GROWER and THE FLOWER GROWER specialize in. Literature covering the practical points of flower growing and especially of Gladiolus growing is not at all plentiful and the bound volumes are, therefore, especially valuable.

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Vol. VI February, 1919 No. 2

> *" He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers."*—ZOROASTER.

Cut Flowers by Parcel Post.

Gladiolus growers have not, we believe, sufficiently appreciated, or if they do appreciate, they have not used the idea of sending cut flowers by Parcel Post to demonstrate the quality of bloom which may be expected from the planting of any given variety. The rate of postage is now low for distances up to several hundred miles or even more, and merchandise by Parcel Post is handled with such celerity that cut Gladioli may be sent for long distances, even up to 1000 miles with perfect success.

Special Parcel Post boxes may now be obtained of the telescope pattern and made of extra heavy cardboard, which if the cut bloom is properly packed and tied in are almost altogether safe for the distances above mentioned. We know of one experience where the sending out of upwards of fifty boxes containing from twenty to thirty spikes of Gladioli resulted in practically no complaint and many expressions of extreme satisfaction and gratitude. These were sent, as we remember it, for distances up to 400 to 500 miles.

If you want to demonstrate the beauty of bloom which is possible do it by sending the actual flowers.

Vitality of Gladiolus Seed.

Last year we reported the result of testing of old Gladiolus seed by H. E. Meader, Dover, N. H. This year we again sent Mr. Meader some of the seed and he has tested it in the greenhouse. He reports so far as he can see a perfect germination. The question is how long will Gladiolus seed retain its vitality? This is seed of the year 1915. It has been kept right here in the office in a high temperature and a dry atmosphere. Mr. Meader suggests that the quantity of seed available for testing may give out before its vitality is exhausted. Well, we have enough seed left yet for a couple of years anyway and it surely is interesting information to Gladiolus growers to know that seed retains its vitality stored under dry conditions for at least three or four years.

Experiences of this kind are extremely interesting. The longevity of the vital principle of seeds has been given comparatively little attention in the past and not anywhere near the attention that it deserves. Such tables as are available on the subject are very meagre indeed and cover but few of the great number of varieties of seeds.

Gladiolus Trade Conditions.

The florist trade papers report that the sales of Gladiolus corms have been exceptionally good this year and that the market is strong. They are also reporting that because of the approaching plant quarantine mentioned in our January issue, that Holland will send over large quantities of stock, especially bulblets. They report further that it is believed that much of the stocks of Gladiolus corms have been sold by the actual growers of same and that there is a tendency for an advance in prices.

All of which is interesting if true. There is no doubt but what there is a tendency toward higher prices, but this we believe is based on an improved demand, higher labor costs and a comparative shortage of stock rather than because the stock has been bought up from growers and that there is an attempt to corner the market. Whether Holland stock will come in in time or in quantities enough to seriously affect the market remains to be seen. If the Holland growers are sending over large quantities of bulblets to be grown here this will put the trade in American hands where it can be more accurately gauged and at the same time it will eliminate to a great extent the foreign competition which American growers have bitterly complained of in times past.

One of our valued correspondents in the west writes with reference to his experience with Gladiolus *Golden Measure*. He says that while it does not make a strong plant growth, yet it has proved altogether healthy under his conditions and that seven bulbs produced eleven bulbs and more than 450 bulblets. It would seem, therefore, that the popular impression that *Golden Measure* was weak and subject to disease may be an error, and surely it is subject to exceptions anyway. *Golden Measure* is a very beautiful yellow variety and if it can be developed into a healthy state it will make an important addition to the yellow varieties of Gladioli.

Edward Y. Teas.

The death of Edward Y. Teas, well known to readers of THE FLOWER GROWER as a frequent contributor, occurred at his home at Eaton, Ohio, on December 15th, 1918. He was in his eighty-eighth year. His death was hastened by a fall in his garden which occurred last summer and which was brought on by the extreme heat. He failed rapidly since Thanksgiving Day, but his mentality was unclouded to the last.

Mr. Teas had a very long experience in the nursery business, something like seventy-five years, and his interest in everything pertaining to his life work continued into his declining years. A brief sketch of Mr. Teas was given in the June, 1918, issue of THE FLOWER GROWER and at that time we offered the suggestion that as an example of helpfulness the writings of Mr. Teas at his extreme age was almost without a parallel.

Among the valuable services rendered to the public by Mr. Teas was the introduction of the American Ever-blooming Hydrangea and Catalpa speciosa. He maintained one of the largest collections of Gladioli, Lilacs, &c., in the United States; also leading fruits.

Mr. Teas was charter member of the American Association of Nurserymen, assisted in organizing the Indiana Horticultural Society in 1860 and was otherwise prominent in association work relating to his particular line of work. A very good photograph of Mr. Teas appeared in the June, 1918, issue of THE FLOWER GROWER above referred to.

The life of Mr. Teas, and especially his great activity during what many people are pleased to call "declining years," should be a great example for all of us. Few people indeed do as much as they should nor do they do as much as they reasonably can without risking their health. In fact, hard work and activity usually mean long life, happiness and honor.

WAYSIDE RAMBLINGS

COLOR CLASSIFICATION AT FLOWER SHOWS.

To the Editor:—

I quite agree with Mr. Meader in that the Boston Flower show is not the only one where errors are made in color classification. Nearly every show that I have attended has had the same faults.

Of course we all agree that the Judges' decision must and will stand but we have a perfect right to our opinions and also a perfect right to express them (in America) and to call attention to these errors that the shows may be better in future.

Does Mr. Meader mean to say that *Independence* should be classed as a pink, *Schwaben* and *Pres. Taft* as striped varieties just because Judges have awarded first prizes on them in those classes? I sent the Superintendent of the show at Hartford a copy of the Official Bulletin and there was some improvement this year, the main trouble at all shows being, to my mind, the fact that the Judges are not Gladiolus growers and suppose that the growers who show have entered properly.

Regarding *Scarsdale* which for two years has won first as both lilac and mauve, Mr. Meader asks who should be disqualified and very discreetly leaves the question unanswered. We entered it as lilac because the Judges of that show decided last year that this was the proper class for it. Nevertheless the American Gladiolus Society Bulletin gives the color as "Rosy Magenta," neither lilac nor mauve.

As no prizes are offered for Rosy Magenta, therefore, we cannot properly show *Scarsdale* at all, unless *Scarsdale* belongs to the general class of lilac or mauve. We contend that it belongs in the lilac class.

Mr. Meader states that the descriptions given by the nomenclature committee of the American Gladiolus Society are confusing and complex.

We changed our catalog description to correspond with the official description but in a very simplified form, giving the color of the perianth or the main color of the flower only and if other growers would do the same and follow the classification of the Society we might arrive at some uniformity, to the general advantage of the trade.

As Mr. Meader is an official of the American Gladiolus Society I will ask him to bring before the next convention the matter of properly dividing into general classes of white, crimson, scarlet, red, blue, lilac, mauve, etc., the commonly grown varieties as a basis for future exhibits. The publications of this society are very valuable and the only basis that we have to work upon so far. The addition above referred to for general use would be of great advantage to every grower.

C. W. Brown.

FLOWERS IN WAR TIME. IN PRAISE OF THE GLADIOLUS.

Sitting around the fire last Xmas the question of Flowers vs. Vegetables came up for discussion and I mentioned that I intended to still further reduce the number of Gladioli in my garden this year. Whereupon my brother-in-law remarked: "If you have any corms to spare I wish you would send a few to Mrs. H———, she did so admire the blooms you sent her last year." I made a note of the address, and later on I made up a parcel containing a good assortment, and I had forgotten the incident until this morning when I received the following letter from the lady:

> 16th Aug., 1918.
>
> "——— I want to tell you what a great deal of pleasure your beautiful present of Gladioli has given us. There seems to be no end to the variety of colors from palest salmon through coral, crimson, scarlet, pink, saffron, and a most beautiful vivid white, with almost green buds and crimson inside, they are just lovely and my daughter cuts them when they have opened nearly to the end and puts them on my table.
>
> "Of course they have had very little care or attention as most of our energies are devoted to the production of the dullest possible of crops, and so we have appreciated this glorious wealth of bloom which has come without toil to us."

The lady had had no previous experience in the growing of Gladioli, but no doubt she followed very carefully the printed instructions when planting the corms, and nature did the rest. There is no room to doubt that when happier times return to us this lady and her daughters will become ardent cultivators of the Gladiolus.

Smilax.

GLADIOLI FOR RED CROSS.

Last year, having a surplus of Gladiolus flowers, I offered the local Red Cross what they could sell one Saturday. One of the drug stores was used for the sale and the young ladies and school girls did the selling. Only ordinary prices were asked and twenty-five dollars was realized. This year, being very busy, I did not get around to it as soon as I should and no advertising was done; but the flowers were displayed at the curb on Main street, a hand bell was rung and a "sandwich man" marched on the sidewalk. Seventeen dollars was realized. If the work had been properly organized more could have been made, but what we did was very easily done.

Geo. S. Woodruff.

PAINTED WOOD LABELS.

I had some Dahlias (or Dahlia tubers rather) that I planted with the labels on them, the ordinary plant label copper wired and painted one side with the name written on them with an ordinary pencil. This was year before last, and after a season's growth the tubers were dug and separated, and two or three of the labels were removed from the old roots, and as they seemed quite fresh and legible I fastened them back on the fresh tubers to see how they would stand another "burial." When dug those inscriptions although very faint could be distinctly read.

I have used unpainted labels in rogueing Glads and those that were put on early in the season were so weather beaten and mildewed they were almost if not quite indecipherable at harvest time.

H. E. Meader.

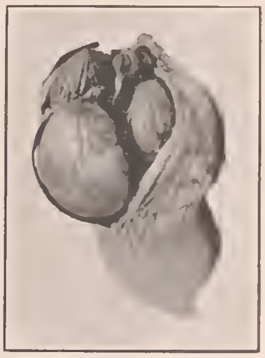
UTILIZING GLADIOLUS TOPS.

They are left in the field until thoroughly dried, and then raked up and put in piles, and left in the field until conditions are right for mulching a variety of plants. Most plants should not be mulched until the ground has frozen a few inches deep. When the ground is frozen so that a team will not break through it is a good time to mulch plants.

Gladiolus tops make a very good mulch, and as they are free from foul seeds they are doubly valuable on that account.

Here plenty of barnyard manure is available; and the tops are burned in the field on the larger plots. A dry, windy day is selected, and the wind must blow lengthwise of the rows. If the conditions are just right quite an acreage can be burned over in a very short time.

Willis E. Fryer.



Herman Kirscht, Pleasantville, N. J., sends us the above photograph of a quintuple *Mrs. Francis King* bulblet. These Gladiolus freaks are interesting and this one is especially uncommon.

L. H. Read, Deer Park, Ala., sends us a Gladiolus freak. It consists of an old dead corm which had been removed from the new corm for several weeks. Mr. Read noticed that one of the eyes that had remained dormant all summer had started to grow. He laid the old corm aside to watch further developments and gradually five or six small corms were formed, the largest of which is nearly an inch in diameter.

Northwestern Peony and Iris Society.

THE PEONY has always appealed to me as being one of the most satisfactory and attractive flowers in cultivation and is eminently adapted for this section of the country. It does splendidly in the milder climate of the more southern states, and does not disappoint in the more severe climatic conditions of Canada.

The various combinations of color, the delicate and pleasing fragrance, the hardiness and vigor of growth, which, coupled with ease of culture and propagation, all tend to make the Peony the most valuable flower obtainable. Even after the beauty of its flowers have passed, the stately bushes add continued beauty and interest to the landscape effect and remain so through the entire summer until they are cut down by heavy freezing in the late fall. They can be subjected to considerable abuse and still exist and give forth bloom from year to year. There is also a fascination about growing Peonies that grows stronger with each succeeding year. Commencing with the more common varieties (and some of these have not been surpassed by the newer acquisitions) one soon has the desire to obtain the more choice ones, and it is only a matter of a few years until the "Peony bug" has gotten hold of you to such an extent that it is found necessary, (where one does not possess ample grounds) to encroach upon ground intended for other plantings to find space for the accumulated collection. How this interesting diversion deflects the tired business man's mind from his strenuous office routine, is apparent by the large number of professional and business men in all walks of life who have made wonderful collections of Peonies. No other flower will give better results with careless or indifferent treatment than the Peony, but what is worth doing is worth doing well and I find it a real pleasure and diversion to work among my Peonies during the growing season. Anyone confined to an office all day needs physical training of some sort to keep him in the best of condition. I know of no better exercise than the vigorous use of a spading fork for a period of an hour or two especially when the day's duties have been extremely arduous, as it puts one in prime condition for a peaceful night's repose. During the winter months we carefully study the various catalogues and make a preliminary selection of the varieties we contemplate planting the coming fall season. When spring arrives we tenderly care for the plants as they make their appearance and admire them through their blooming period and make final selection of varieties. With the advent of summer we will continue the cultivation at frequent intervals to promote sturdy root growth, and when the fall months displace the summer season we are engrossed in our planting activities. Thus a pleasant Peony year is passed by the "Peony Bug."

W. F. CHRISTMAN, Sec'y.

Making Gifts of Flowers.

Comparatively few people make gifts of flowers, and defend themselves by saying it puts money into a most perishable thing, as if a gift that cost money must be a substantial thing that cannot easily perish. A receiver of substantial gifts needs an apartment to store gifts in and register that he has friends, and he must place gifts in a room with reference to the degree of friendship existing. Precedence is often carefully studied, and the fruitful study often not appreciated. If one will stop and think of what it means to keep all the substantial gifts of his life and the friendships of the givers, he may easily arrive at the fact that it is quite a misdemeanor to make anybody a gift that will not perish of itself. If one is going to make a money gift, he should give it in raw money and let the receiver buy the gift of his choosing; then if the party gets tired of a hammered brass placque the giver is exempt from the blame of having sent the imperishable thing as a gift.

But it is a raw thing to send money for a gift, except in charity. Few friends would feel anything but as paupers at having money sent them. The making of money gifts can easily become a matter of barter, and the true spirit of giving eliminated. A gift of flowers that costs much is the only way to put money successfully into a gift. It can be so beautiful it can never be forgotten, and yet never in the way of other friends and never needing chamber room.

If one sends a costly bouquet of flowers to one who does not care for flowers, it is a good object lesson all around. It tells a life story of both sender and receiver. It may awaken an interest in flowers. It may be there are people so homely they have never thought to love flowers until startled by a bouquet in the hand sent by an interesting friend. Flowers come out of the brown earth that does not seem good under feet to some people, and they have not noticed that there is nothing homely in the world but misuse of things. Flowers make such splendid use of a plain thing in its relations, only very high-headed people have overlooked flowers among the beautiful.

The greatest friendships we have ever known are among flower-lovers. Just look earnestly over a fence to a strange woman's winter garden of bulbs, and she will come to you if she sees you. Many a lasting friendship starts over a flower garden fence.

A costly gift of flowers tells a long story, as the receiver tries to keep it from fading and sees it go little by little till only the greens remain. If there were no more coming it would be a sad experience, but there are, and different ones, and it is not the things that cannot perish that make us happy longest. We think of the sending friend that lives to send more flowers, and can never forget the friend who long ago sent many. It may be a costly bouquet that did not cost the sender money. A really needy person, who could not afford to put money in flowers, may get the flowers given to him over the garden fence of a stranger, or he may grow them himself. Wherever there is a will for flowers to give, there is a way to get them, and there is one beautiful thought about flowers, that the seeds and roots and bulbs of them cost very little. It is the labor of somebody that makes flowers expensive, and when one can afford to give expensive flowers he is helping the grower of them to live a life among them.—*Suburban California.*

If our mild winter is followed by an early spring, flower growing will boom.

The Glad Philosopher's Musings.

This is the season of the year when all the faithful 33rd degree members of our craft occupy the long winter evenings with making plans for our spring plantings, and with delightful anticipation we scan the flood of new catalogues that are now pouring in, for mention of new varieties we have not as yet tried out, and as we read the alluring descriptions we cannot resist the covetous desire to add them to our collections. What matter if some of these alleged novelties be old varieties masquerading under new aliases, or if really new, are inferior to ones we already have? Did not America's once greatest showman discover, and proclaim it as a truth, that his countrymen liked to be humbugged?

In ordering varieties as yet unknown, it is sometimes well to remember the saying, "the best is always the cheapest." In general practice, the cheapest is not often the best, but in the selection of flowers, fruits and vegetables, the cheapest is oftenest those kinds that have withstood the test of time, and are cheap only because they have been long established. By reason of their great merit they have outlived many other varieties that gave promise for a brief season, then went the well-traveled road to oblivion. Being in greatest demand, they were raised more generally, and the universal law of supply and demand prevailed. The Gladiolus *America*, the Peony *Festiva Maxima*, the Iris *Mad. Chereau*, the Geranium *S. A. Nutt*, the Concord grape and the Hubbard squash are but few examples of highest quality with lowest prices, and these are cheapest because being long-time the best, the demand stimulated a far greater supply to meet it.

As garden tools are about double their price of two or three years ago, the G. P. is glad that he has always made it a rule to clean his hoe, spading fork, etc., after each time of using. Long ago he discovered that it pays to buy only the very best implements, and then to take good care of them.

What a long time it takes to break away from established custom and overcome prejudice. Most people continue to demand three-quarter inch garden hose when one-half inch hose is cheaper in cost, and being stiffer, will wear about twice as long as the larger sized. Very few dealers in hardware carry five-tined spading forks, but anyone who has ever used one will never want a four-tined fork again.

If people would refuse to buy unriveted hose and rakes the manufacturers would soon cease making them. However, blame it all on Barnum, he put the manufacturers wise!

THE GLAD PHILOSOPHER.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

The Game of Growing Gladiolus Seedlings.

THE GROWING OF seedlings is somewhat of a game and a fascinating one, as well as something of a gamble. If one has betting propensities in his make-up a handful of Gladiolus seed will surely bring them out, for if he knows the distinctive features of their ancestors he will feel that it is a safe bet that some one of those seeds will bring him a beautiful bloom whether it be anything like the ideal of his mind or not. This captivating game is one in which the study of varieties is the search for their traits and tendencies and the effort to direct and combine them by hand-hybridizing. One should have his ideal flower in mind and select for its parents, those which he has observed possess one or more of the traits he wishes to be perpetuated. We understand that Mr. Burbank's idea of a seed is that it is a bundle of tendencies each of which is released under certain conditions favorable to it. When the seedlings bloom, the hybridizer may be quite surprised to find them entirely different than either parent, and not a sign of any of the traits he had hoped for. The new condition had released tendencies that he had not thought of, but again the new flower still has those inherited traits and tendencies, and its seed may produce blooms combining and surpassing the ideal flower of his mind. The tendencies are always there, and environment, intense cultivation, every condition of weather has its influence in bringing out something unusual and beautiful when the combination of conditions arises.

Bertrex, a seedling from a direct cross of Gladioli *America* and *Augusta*.

The seedling here illustrated was one of a number from a direct cross of the Gladioli *America* and *Augusta* and appeared in the first generation. It combines the size and form of *America* with the color of *Augusta*. Some other tendency gave the spike a slightly more graceful appearance than either parent, and the flower does not tint as quickly as *Augusta*. The other seedlings, from the same seed pod, gave beautiful flowers but showing no trace of traits of either parent.

For the one who would like a delightful summer pastime, I would suggest that he purchase a few each of several of best named varieties obtainable and study these mysterious works of nature in his garden. A desire to produce new and improved seedlings may result from such a study.

MRS. A. H. AUSTIN.

The Aspedistra.

[*Written expressly for The Flower Grower.*]

BY BERTHA BERBERT-HAMMOND.

For the purpose of indoor decoration and of bringing into the home a pleasing suggestion of summer greenery the Aspedistra with its luxuriant, beautiful foliage is second only to the graceful Palm and for its ability to withstand the hardships peculiar to room culture, it is easily without a peer. It will thrive and look fresh and handsome under conditions that would surely cause the Palm to droop. Because of this capacity to endure successfully the effects of gas, dust, lack of direct sunlight, cold drafts and other adverse conditions, the Aspedistra has earned the fitting sobriquet of "The Cast-iron Plant." It is sometimes called "The Corn Leaved Palm" because its large, graceful leaves resemble somewhat the leaves of the corn plant.

There are two varieties of Aspedistra that are largely grown. Aspedistra *lurida*, with its large, glassy green leaves and Aspedistra *lurida variegata*, which has beautiful green and white striped foliage. Both varieties are nearly hardy though the green-leaved variety seems to possess more endurance than the variegated sort. It does well at a temperature of 50 to 60 and has been known to survive even a light "freeze."

The Aspedistra is of the simplest culture. It will flourish in shade or sun and needs very little water, particularly during the winter. When the plant makes its growth (usually during the spring and summer months) some of the rhizomes may be crowded above the surface of the soil. When this occurs, some new soil mixed with a little bone meal, may with good effect, be substituted for some of the old top soil, but otherwise the plant is better left undisturbed. It is a mistake to repot until the roots actually crowd. The writer has a large, handsome specimen that has been in the same pot for over a dozen years. About four years ago, a small quantity of coal dust was worked into the surface soil and now this plant which had heretofore been considered Aspedistra *lurida*, shows distinct white stripes in many of its leaves. It may be that the plant had been of the variegated type and had reverted, as the leaves of the variegated Aspedistra sometimes do turn all green. When grown in a soil lacking in iron, the variegation is more likely to be retained. Sponging the leaves of the Aspedistra occasionally enhances their beauty and is beneficial to the plant. When once firmly established in a roomy, well drained pot the Aspedistra requires no special attention for years.

Though generally considered an ornamental foliage plant, the Aspedistra bears a small, brownish-red fungus-like growth. The little button-like buds appear close down to the surface of the soil and open into eight pointed tulip-shaped flowers. These curious specimens of flora though interesting are so very inconspicuous that it is not surprising that many persons who possess Aspedistra plants are not aware of the fact that their plants ever bloom.

Flowers as Gifts.

Ralph Waldo Emerson was thoroughly appreciative of the value of flowers between friends and this is what he said:

> "Flowers are always fit presents, because they are a proud assertion that a ray of beauty outvalues all the utilities of the world."

The Florists' Review offers the suggestion that the sending of flowers as a gift conveys a double compliment. Because of their beauty, but perishable nature, they are appropriate in preference to a lasting gift because of the implied faith in the ability of the recipient to appreciate the spiritual sentiment behind their fleeting loveliness. The message conveyed by flowers is appropriate on almost all occasions and for almost all purposes. Flowers as gifts may be universally utilized.

Peony Suggestions.

When the Peony plant first starts growth in the spring a little stimulant in the form of commercial fertilizer or manure is desirable. Dry blood, ground bone, cow manure or nitrate of soda can be utilized. Work as closely as possible around the plant with a hoe or cultivator.

When the buds attain some size pinch off all but a central bud to produce the earliest flowers. For late flowers it is best to remove the large central bud and allow the smaller ones to mature.

When cutting the bloom leave some of the foliage on each stem. They should not be cut down to the ground as is often practiced as this will tend to weaken the plant for next season's blooming.

This is a rule which applies to any flowering plant from which a crop is expected year after year. It is the foliage which develops the root and the bulb and the bud for next year's bloom.

Catalogues and Price Lists.

Howard M. Gillet, Lebanon Springs, N.Y.—Retail catalogue and price list of some of the best standard varieties and collections.

J. D. Long, Boulder, Colo.—His 1919 "decidedly different" seed catalogue; 36 pages with cover. Garden seed, flower seed and bulbs, but specializing in the Gladiolus and containing some interesting facts pertaining thereto.

G. W. J. Bridger, Sarnia, Ont., Canada—1919 price list of Gladioli with excellent descriptions of standard varieties and some of the newest novelties.

C. W. Brown & Son, Ashland, Mass.—12 page catalogue and price list of Gladioli. Standard varieties and also fourteen of the Brown productions. A very complete list containing some of the very best new things as well as the old standards.

D. W. Peckham, Middlefield, Conn.—Catalogue and price list of Dahlias and Gladioli. An especially complete and attractive list of Dahlias, Cactus, Decorative, Peony flowered, &c., classified and with brief descriptions.

A. B. de Groat, Bath, Steuben Co., N.Y.—Price list with descriptions of some of the best American varieties and many of the best foreign product. An especially attractive list of the French varieties.

John H. McKibbin, Goshen, Ind.—Catalogue and price list of Gladioli. The Kunderd varieties are especially prominent. The new variety *Dorothy McKibbin* has the front cover page.

T. A. Kenning, 1815-26th Ave. N., Minneapolis, Minn.—Retail price list of selected varieties of Gladioli.

W. L. Crissey, The Gladiolus Farm, R. F. D. No. I. Boring, Ore.—An artistically arranged eight page folder with eight beautiful illustrations, describing and pricing a very selected list of varieties of Gladioli. There are also some interesting suggestions in connection with growing Gladioli.

E. E. Stewart, Brooklyn, Mich.—Wholesale price list of Gladioli with good descriptions. Many of the French varieties as well as the standard sorts are listed together with the Stewart originations.

Growing Lilies from Scales.

It is an easy matter to have hundreds of the Madonna Lily, (*Lilium candidum*) growing, if you have the room for them. This is not an idle conjecture but comes as the result of actual trial, in several instances by persons inexperienced in the fine arts of gardening. About midsummer, after the stalks have dried and fallen, dig up your old bulbs of L. *candidum* and remove the scales. Bend the scales outward, using care to see that they snap off near their junction with the base of the bulb. Use only the outer scales and replant the small central part of the bulb left. A good old bulb will supply fifty or more scales which are large and firm enough to use in propagation.

Fill a shallow box or seed flat with sand to the depth of an inch and a half. Press the scales into the sand in an approximately vertical position. Then fill the box with sand and press it down so as to leave a final depth of two and a half or three inches. An ordinary flat, 18 in. square and 3 in. deep will hold two hundred scales. Keep the flats well watered and in less than a month you will be able to make out one or two little buds arising out of the base of each scale. It is a good idea to keep yourself informed as to the state of growth by digging down occasionally into one corner of the flat. It doesn't hurt the scales, and it will often prevent disaster.

By the middle of fall you should have fair sized little bulbels formed, and they should throw up one or two leaves. At this stage they should be transplanted to a specially prepared bed in the open. If this is impracticable, sprinkle some bone-meal (fine) over the surface of the flat and work it into the sand. Get as much growth as you can the first year. A few will bloom the third year, and after that you will be able to display this exquisite Lily in profusion. Just think of the show that even two hundred of these Lilies would make.

Lilium candidum is about the easiest of the Lilies to reproduce by means of scales. Still, there are several others almost as easy for the beginner. The varieties of L. *longiflorum* are all easy to propagate by means of scales, but you will not get such a large percentage of bulbels for the number of scales planted. —H. E. Gilkey in *Garden Magazine.*

The wide divergence in prices quoted by different growers for the same variety is a subject for continual comment by our correspondents. We are inclined to agree with those who say that there is something wrong here. Inexperienced growers are for the most part responsible for erratic quotations. The great variation in prices is often caused by lack of information on the part of the grower as well as from the fact that he may be overstocked or understocked. An overstock compels him to make low prices whereas a small stock of a meritorious variety impels the high price.

CLASSIFIED ADVERTISING.

Growers having surplus stock for sale will find this department effective in disposing of it. Five lines (about forty words) $1.00 per insertion. Additional lines 15c. each.

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THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

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1919

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
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MY WAR GARDEN WORK.

[*Written expressly for The Flower Grower.*]

BY STELLA M. ANTISDALE.

IT WAS NOT UNTIL our Daffodils and Iris were gone that the thought came to me to sell some of the flowers, fruit and vegetables for the patriotic cause that was interesting every loyal heart. One day a stranger came to the flower garden where I was busy, and asked if I would sell him a dozen Peonies. It was then that I decided to do war work with the abundance of flowers that we hoped to have during the season. I obtained a small black-board, painted a Red Cross on it, had the board set up near my choicest Gladioli, and where it could easily be seen from the street. During the entire season I had "flowers" listed and usually "apples" and "vegetables." The day after the bulletin board was in place, a lady stopped and bought some flowers. She told me she had two sons in France, and I soon knew she was truly interested in war work. She became a delightful customer and came to buy as long as I had anything to sell. It was a pleasure to prepare the baskets of fruit and vegetables, and numerous bouquets, that were always included in her order.

As my work progressed I became more and more interested. I wasn't satisfied just to do something—I wanted to do *all* I could. The summer was favorable for garden work, and I do not remember a grander October. A representative from the Cleveland War Garden Department came to see my gardens; he was especially interested in the vegetables, and told me he had not seen better, in landscaping, variety of vegetables and in careful cultivation. I have always loved the out-of-doors, and have for several years grown flowers for the house and to give away, but never for commercial purposes.

I had about a thousand Gladioli, more than half of the bulbs I bought last spring, and some of them were new varieties to me, so I was especially interested. I had well prepared soil and enjoyed the planting and care until there was not a stalk left to cut. It was indeed a pleasure to watch the beautiful unfolding blossoms. Such a variety of gay colors and sturdy stalks, and in contrast, the dainty *Primulinus Hybrids* with their delicate colorings. I have a few of the ruffled varieties which I watched with interest. *Purple Glory* is truly beautiful, but to me it is garnet in coloring not purple mine was a real "Garnet Glory." In August I had the pleasure of meeting Mrs. Austin at her home—a friend to all readers of THE FLOWER GROWER. Mrs. Austin kindly showed us through her home garden, then accompanied us to the "Home of the Elm Hill Gladioli" at Wayland, Ohio. I had never seen Gladioli grown by the acre, and the sight was of more than ordinary interest to every member of our party.

I am enthusiastic over Gladioli. We *can* eat our cake and *keep* it too (at least

(*Concluded on page 29.*)

GLADIOLUS—*PRIDE OF HILLEGOM.*

Of Holland origin and described in K. Velthuy's catalogue as the finest scarlet. It is a striking flower and one of the few on which the price has been well sustained since it was first introduced. The photograph above was taken on August 4, 1917. Each spike had seventeen pips and was 3 ft. 6 in in height when cut.

SMILAX.

Hybridizing and Crossing the French Iris.

(Reprinted by permission from *Horticulture*, Boston.)

By William Rollins.

ALL KINDS DO NOT MAKE GOOD FATHERS.

The pollen of some kinds does not fertilize well, yet if these are used as females the cross may succeed. If a cross seems desirable do not give up until trying it both ways. Perhaps it may not be well to make many of these crosses, for oftentimes the resulting plants are sterile, ending the line. Emerson said of the Rhodora, "beauty is its own excuse for being." When the flowers of these crosses are lovely they should be saved as they can be increased in the usual way. I sometimes imagine the flowers last longer.

GROWTH OF THE SEED PODS.

Here the seed pods are often full grown in twenty-four days after pollination. In ninety days the seeds are ripe. Do not wait until the pods are brown and dry and have opened at the top. If you do, some of the seeds will be decayed and others eaten by worms. Writing of the latter I am reminded to say there will often be found on the leaves of the Iris in May clusters of yellow eggs, which develop into worms that eat the leaves and later the seed pods. When the latter are forming, go over the rows every day, otherwise you will have valuable seed pods ruined, like those shown in Figure 10. You must search for caterpillars, for they never seem to be on the pods in the hours a person is in the garden.

TIME OF PICKING THE SEED PODS.

As soon as a pod is fully grown and the green color faded to a yellow-green, the pod being slightly shriveled, pick it. Having the seeds what shall be done with them? They should be planted immediately. This brings us to

THE SEED BED.

Make it four feet wide and as long as needed. Dig to the depth of six inches and save the soil. Dig six inches deeper and reject the soil. Put in three inches of muck, then three inches of dirt, and repeat the work until the bed is more than full.

SIFTING.

The muck should have been gotten out the summer before and mixed with ground limestone in the proportion of a ton to a cord of muck. First a layer of muck, then one of lime until the pile is big enough Let it stand over winter to get the acids united with the lime. In the spring fork it over and sift through netting with a $\frac{3}{8}$ inch mesh. The top soil of the seed bed must be sifted through this or a finer sieve. Make it six by three feet, of two inch plank. Mount on two wooden horses above the trench and work soil and muck through with a hoe. We know that stones disintegrate into the soil and some furnish potash, but there will be enough pass through the sieve. The rate of disintegration is interesting and will form the subject of a future letter.

FERTILIZER.

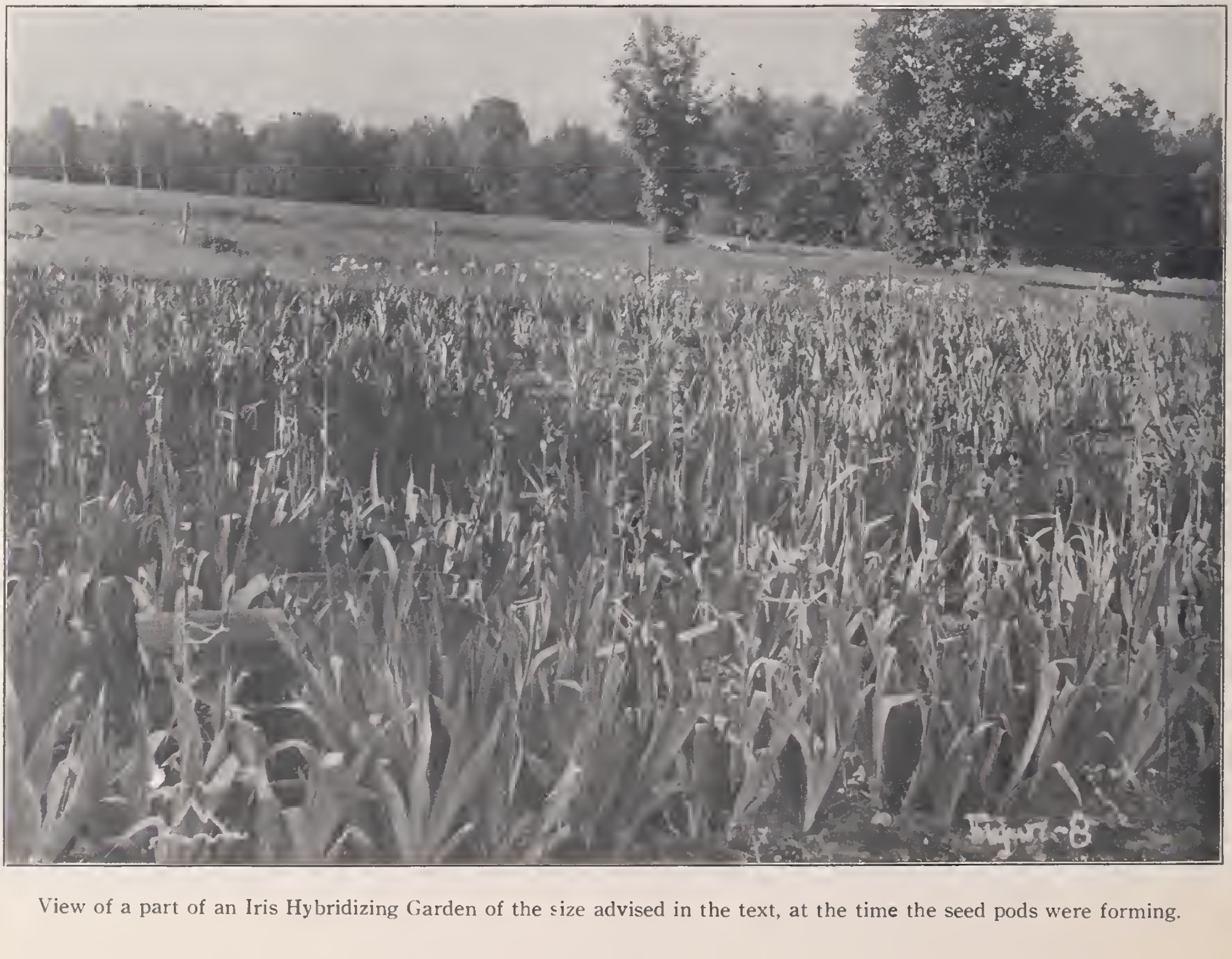
Muck needs potash and phosphoric acid. To every thirty feet in length of the bed add twelve pounds of the following mixture, as soon as the bed is made, working fertilizer, dirt and muck together with a spading fork: Slag phosphate, 750 pounds; sulphate of potash (the best you can get), 225 pounds; permanganate of potash, 25 pounds. If you believe in radioactive soil add four ounces of oxide of thorium.

TIME FOR PLANTING IRIS SEED.

In this climate planting comes the first week in September. Plant the seed (which should be the color of coffee and milk) one inch deep, one inch apart, in rows with only room enough to place a foot in weeding, not over six inches. As all the work in the seed bed must be done by hand, the plants should be near together, to make the space for weeds small, for labor is very costly. Weeds grow faster than the plants. Clover is particularly troublesome, for its roots go deep before the leaves are large enough to grasp.

WHAT PROPORTION OF SEED WILL PRODUCE STRONG PLANTS?

This varies greatly with the cross. From one of the pods shown in Figure 9 I selected 133 of the 150 seeds and planted them. They produced 77 strong growing plants. For this climate that is a good result. Two thousand seeds of another sowing the same year gave but 107 plants. I have repeatedly crossed *Macrantha* on several of the best tall growing kinds. The seed pods were exceptionally large, as were the seeds, but the germination was very poor, averaging five per cent. Another person might get quite a different result. I abandoned the use of *Macrantha*, as the erect segments of the perianth were too floppy, and considering the poor germination the chance of breeding this out and yet retaining the large size of the flower seemed remote.



View of a part of an Iris Hybridizing Garden of the size advised in the text, at the time the seed pods were forming.

GROWTH OF THE SEEDLINGS.

The following May after planting, the plants should be above ground. By the last of June they should be from three to six inches tall, according to the cross. By the first of August they should be from eight to twelve inches. The first time you dig seedling Iris you will be surprised to find the parts under ground do not look like rhizomes. They are somewhat globular with the rootlets arising from their bases. The rootlets are about two-thirds as long as the leaves.

TRANSPLANT GARDEN.

Make it the same width as the seed bed but longer. Prepare in the same way.

TRANSPLANTING THE SEEDLINGS.

Do this the first week in August. Plunge a large mason's trowel into the ground eight inches. Draw the blade back, leaving a cavity into which drop the seedling, with the rootlets hanging; withdraw the trowel allowing the earth to fall back on the roots. Firm it with the feet, leaving the bulbous part of the root two inches below the surface. Set the seedlings six inches apart, in rows with six inches between them.

WATERING.

When the bed is planted, run the sprinkler, if the season is dry, until the ground is moist, and will hold its form when squeezed in the hand.

GROWTH AND MORTALITY IN THE TRANSPLANT BED.

Only one per cent may die the first winter. At the end of the second 95 per cent should be alive. One per cent should flower the first year where many kinds of crosses are made. Ninety-five per cent should blossom the following season.

(*To be concluded.*)

The Lure of the Iris.

Throughout the spring and summer months the Iris, in one or other of its species, is to be seen in the gardens of those who love to have the most beautiful of the beautiful in their collections—and, surely, never was more beauty to be found among flowers than in the Iris!

In Japan, the Iris is greatly valued for decorative purposes, and the Japanese species, Iris *Kæmpferi*, is greatly valued in the United States as a late blooming species, and its number of varieties, all bearing Japanese names, give a period of bloom running from the end of June until well into August. Another Japanese species, Iris *tectorum*, in Japan is often grown upon the roofs of houses, for the purpose of warding off pestilence, some say; others claim that it strengthens the thatch used for roofing. Mrs. Fraser, in her book, "Japanese Tales," gives the following reason: "Once there was a famine in the land and it was forbidden to plant in the ground anything that could not be used as food. The frivolous Irises only supply the powder with which the women whiten their faces, but their little ladyships could not be cheated of that. 'Must we look like frights as well as die of hunger?' they cried, and so every woman set a tiny plantation of Irises on the roof of her house, and there in most country places they are growing still."

The Tall Bearded Irises are most commonly seen in cultivation. These are mainly of the German type, Iris *Germanica*, in its many sections. One of the most beautiful forms of the type is found in the "pallida" section, the blooms of which run largely to the light blue shades, and are quite fragrant. A very handsome variety is *Queen of May*, a lovely soft rose-lilac, almost pink. It is a hybrid, and should be found in every collection. Another splendid hybrid of Iris *pallida* is *Mme. Chereau*, a white, elegantly frilled with a wide border of clear blue. In the variegated section, *Laurentinus*, a bright yellow, with falls yellow, netted purple, is a fine sort, as also is *Innocenza*, standard and falls ivory white, crest rich gold, very delicate. *Delicatissima*, in the plicata section, is a beautiful white, heavily frilled blue, somewhat similar to *Mme. Chereau* but not so tall in growth. *Flavescens* gives us a delicate shade of soft yellow, large, fragrant flowers, a fine variety for massing; it is one of the best for cut flower purposes. All the others named are splendid sorts from a cut flower point of view, but the selection would hardly be complete without *Florentina*, a creamy white, faintly flushed with lavender, very early and delightfully fragrant; and *Sambucina*, a very fragrant variety having the odor of the Elder, as its name indicates.

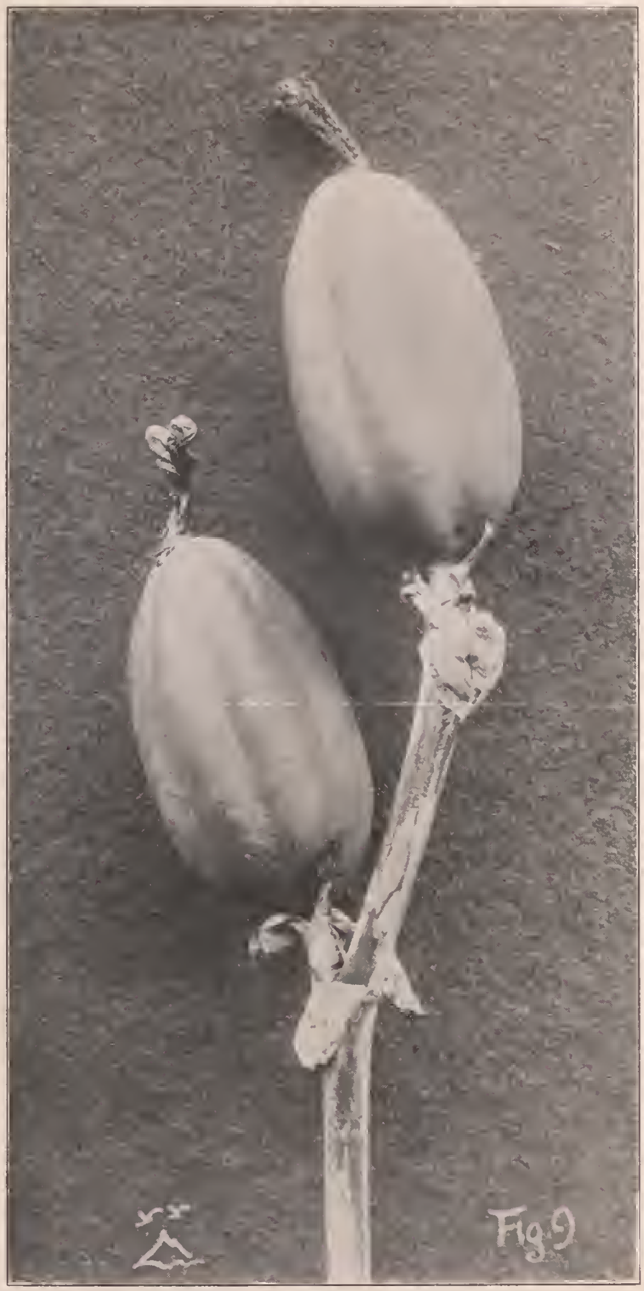


Fig. 9

The Apogon, or Beardless Irises, are next in importance to the Bearded type. In this group are included all the moisture loving kinds, a fact which should be remembered. It should also be borne in mind that no Iris, with the exception of *Pseudacoris*, popularly accepted as the "Fleur de Lys" of France, and Versicolor, our native Water Flag, can be successfully grown where water stands continually in winter. The varieties in this group will grow well in any garden where the soil can be kept moist through frequent stirring. These Irises, like those of the Germanica section, all have rhizomatous rootstocks. The *tectorum*, or "Roof Iris," belongs to this section. This variety should have slight root protection in winter north of New York. *Fulva* is a handsome variety throwing rich, coppery, maroon-colored flowers toward the end of June; it is not a tall grower, its height being usually about 1½ feet. *Missouriensis*, one of the earliest and prettiest, is a profuse bloomer, in color lilac with a yellow spot. *Tectorum, Fulva* and *Missouriensis* do best in dry, sunny locations. For waterside planting, flower and shrubbery borders, may be recommended *Delavayi*, a Chinese variety of recent introduction, growing to a height, sometimes, of five feet, flowers produced in July, a rich ultramarine blue; *Aurea*, a Himalayan variety, with large, handsome flowers of deep yellow color, produced in June and July; *Orientalis gigantea*, the Gold-banded Iris, flowers ivory white with an orange-yellow blotch at the base of the falls, produced in June and July; *Spuria Mrs. A. W. Tait*, flowers soft porcelain-blue, with very long, pale blue falls, and a blotch of gold at the base, a most lovely variety and fine for massing.

A group of Irises of which one often reads but seldom sees is that called the Oncocyclus. This is due to the fact that the species in the group are rather difficult to grow. They will insist upon having what they need, and resist almost everything approaching a compromise. If one should be fortunate enough to succeed with them he will have flowers beautiful indeed. The stems of the species in this group throw one flower only. The most common of the group is Iris *Susiana*, the Mourning Iris, and of all the varieties it is the least difficult to grow. It is grown with success in certain parts of Long Island, and, no doubt, may be elsewhere. —*Floral Magazine.*

The Iris articles by Mr. Rollins have attracted much attention among Iris lovers and we are pleased to have been able to present this series of articles to our readers. There will be another installment in the April issue which will end the series, but we do not expect to stop printing good matter about the Iris from time to time as it becomes available. The Iris works in so beautifully with the Peony and the Gladiolus that all three are grown in many gardens. Some years the Irises are wonderful, and they never fail to give satisfactory bloom even in an unfavorable season.

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FOR BOTH AMATEUR AND PROFESSIONAL FLOWER GROWERS

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Growers are invited to contribute articles or notes over their own signatures, but the Editor reserves the right to reject anything which in his judgment is not conducive to the general welfare of the business.

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Vol. VI March, 1919 No. 3

> *"He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers."*—ZOROASTER.

Gladioli Red Emperor and Dominion.

From information which we have, but which we do not claim is positive although good enough circumstantially, there is little question but what *Red Emperor* and *Dominion* are one and the same thing. Furthermore, those who have had an opportunity of comparing these two varieties when well grown under the same conditions and are able to make comparison, seem to think that there can be no doubt about it. How the confusion in names occurred we are not able to state at this time, but there is no doubt but what when these two varieties, if they may be called varieties, are compared on the trial grounds at Cornell, if they are ever compared, they will be pronounced identical, and, therefore, we feel that it is well at this time to inform our readers of the results of the experience of several different growers. *Dominion* was doubtless the original variety and was originated by H. H. Groff and the origin of *Red Emperor* seems in doubt.

This subject is open for additional light and if any of our readers can offer further evidence or suggestions, we would be glad to hear from them.

The subject of local flower shows for the coming season should be taken up now. Planning in advance is necessary to secure best results. Not enough has been done along this line, but some localities have made a record which others should use as a guide. In many places there are people who are especially interested in some particular flower. For instance, in the city of Lansing, Mich., where local Gladiolus shows have been held for two successive seasons, great enthusiasm is shown and a fine bank building has been opened for the staging of the flowers. Talk the matter up in your city and see what can be done for the coming season.

Don't expect to grow as fine bloom in your own garden as you see on exhibition unless you use care and diligence in planting and growing. Plenty of rotted stable manure is a prime necessity. Be sure that your ground is plowed or spaded to a depth of eight to ten inches and that your corms are planted six inches deep for large size and proportionately less for the smaller sizes.

To Advertisers.

The advertising of L. H. Read & Co. in the February issue of THE FLOWER GROWER and in this issue we would call especial attention to. Mr. Read is following out the suggestions made by Harmon W. Marsh in the December issue of THE FLOWER GROWER. Look up that article. It contains some very good ideas. Advertisers should tell some interesting things in their advertising. Advertising is primarily designed to sell goods, and to do this it must also attract attention and give information. Mr. Read in following out this idea is telling us some entertaining things and there is no doubt but what during each succeeding month he will hold the interest of readers of THE FLOWER GROWER. Advertisers who are willing to undertake this plan of advertising, should write us. We have something special to say to them.

MADISON COOPER.

A correspondent suggests that information as to time of planting and other conditions which make for greatest increase of Gladioli from bulblets would be helpful to new beginners. The practice among commercial growers is to plant bulblets as early as the ground can be worked in the spring. These are followed by the smallest size of planting stock corms and later by the larger sizes. Of course, those who grow for cut flowers commercially put in some quite early varieties at the first planting also to catch the early market, but answering the question as to when to plant to get greatest increase from bulblets, we would say that it was just as early as the frost is out of the ground and the ground can be worked in the spring. It is well known that bulblets should have as long a growing season as possible and besides, it is the biggest job to dig bulblet grown stock in the fall and commonly this work is started first, usually in September and, therefore, the earlier the bulblets are gotten into the ground in the spring the better.

A rough draft of the preliminary prize schedule of the American Gladiolus Society for their annual show is printed on page 28. Some offers have come in since this schedule was put in type, but even so, the schedule is quite incomplete, and there should be many further prize offers. Considering the prosperous condition of the trade and the prospects for large business during the next few years, all those who are interested in the commercial end of Gladioli should do something toward prize offers to make the next show of the society the biggest yet. We recommend that those who are interested communicate with Prof. A. C. Beal, Secretary, 6904 Sunset Blvd., Los Angeles, Cal. This will be his address until May 1st.

One of our subscribers wants to know where suitable boxes for shipping cut flowers by Parcel Post may be had. These paper boxes of the telescope pattern may be had of special strength and especially waterproofed which will carry flowers for long distances without damage. Those who are interested in securing such boxes for shipment had best apply to their local florist as ordinarily florists carry such boxes in stock and will sell them at a reasonable price.

We believe that poor results in Gladiolus growing are often attributable to too shallow planting. Five to six inches is recommended for the large corms, but we suspicion that few people know just what this means when it comes to digging a trench that deep for planting. Get out your measure and do not guess at the depth.

WAYSIDE RAMBLINGS

SUGGESTIONS RELATING TO PRIZES AT FLOWER SHOWS.

The July number of THE FLOWER GROWER reached me on the first day of the American Gladiolus Society's Show, and it was with great interest I read the schedule printed on page 72 and the editor's note on the division of the prize money at shows in general. The first and main object of a flower show is to bring together as many kinds and varieties of flowers and vegetables as possible and it is, therefore, important that the organizers should endeavor "to put himself in the place of the fellow exhibiting." I am afraid this is not done so frequently as it should be, otherwise there would not be so many classes that fail to produce even one exhibitor. Of course, in some cases the schedule is issued too late. Some seedsmen are beginning to realize this fact and stipulate that unless the schedule is issued in the month of March they will not offer prizes. It is useless to offer prizes for particular varieties if the schedule does not come into the hands of probable exhibitors until long after the planting season. I was recently at a show where not a single amateur exhibit was staged, and on inquiry from those who had exhibited in previous years I was informed that the classes had been so altered and the schedule had been so late in appearing that it was impossible to grow the items asked for in the time. In fact, one possible exhibitor said: "The schedule is all right for trade growers but for amateurs the schedule ought to have been in our hands last October."

How does the schedule under review compare with that of last year? The individual prizes are not so valuable but the classes appear to be drawn with a view to produce more competition, and I hope that result was obtained. Certainly it appears to me that the compilers were anxious to obtain quality rather than quantity. The division of the prize money would bear further consideration on the lines suggested by the editor of this paper.

There are fewer prizes in merchandise which, I think, is an advantage. Such classes do not, as a rule, fill very readily. It would be to the interest of those offering such prizes to consider whether it would not be better to let the winner have some choice in the matter and instead of "Fifty corms of *President Grant*," offer "Seeds, plants or bulbs (or goods) to the value of $— to be selected from our retail catalog."

I was pleased to note that six classes were devoted to *Primulinus Hybrids*, although a class for named varieties was not included.

I shall look forward to reading a full account of the show in the September issue of this paper, the flowers will no doubt have all disappeared from my garden by then—possibly most of the corms lifted and stored, and so far as the Gladiolus is concerned there will be only the notes to go over to remind us with what a wealth of bloom we were surrounded during the season of 1918.

SMILAX.

EXPERIMENTS WITH FERTILIZERS AND SOILS ON GROWTH AND HEALTH OF GLADIOLUS CORMS.

In the spring of 1917, I planted out about four hundred varieties of Gladioli in soils prepared as follows:

1. Three hundred were planted in a sandy loam enriched with one of the well known prepared Humus fertilizers now to be had, at the rate of 1 part humus to 3 parts soil. This prepared humus had been a great success in the culture of Roses and Chrysanthemums.
2. The balance were set out in a clay loam enriched with well rotted cow manure in the same proportion as in 1. The dry pulverized form was used.

Before the season was half over, about one-half of the corms in plot 1 had rotted away. The other half produced but a few spikes of bloom, the growth being weak and sickly. On harvesting, one-half of the remaining corms were badly infected with a spongy rot showing brown and blackened areas, or were covered with scabs containing a jelly-like substance which hardened on exposure to air. All these diseased corms became hardened and lifeless by the following spring. No cormels were formed.

The corms in plot 2 performed excellently, forming fine strong plants, all giving fine spikes of bloom, and when harvested were healthy and solid and had each increased by numerous cormels.

In the spring of 1918 all of my stock was planted in new locations, the soils being a black sandy loam, and clay loam, each of which was enriched with well rotted sheep manure, dug in, 1 part manure to 3 parts soil. The manure used was the dry pulverized form. Before the plants showed, the beds were given a top dressing of rotted cow manure from the field, and after growth was well up, the plants were given a weekly feeding with liquid manure until buds showed color. This was prepared by stirring into each two gallons of water, one teaspoonful ammonium sulphate and one pint dry pulverized sheep manure.

Practically all of the varieties blossomed, as well in the sandy loam as in the clay loam. All plants were strong and healthy in growth and the corms had not only increased in size, but were solid and gave a good increase in cormels.

The following conclusions were drawn: The type of soil has no bearing on the health and growth of a corm, nor does it seemingly affect the production of cormels. Animal manures are not injurious in the proportion of 1 to 3. Excessive humus should, however, be avoided, as it promotes disease.

CHAS. E. F. GERSDORFF.

SOME CULTURAL SUGGESTIONS.

Last summer I chanced to visit a neighbor Gladiolus grower who had a large force of men and boys cleaning out a field where weeds and Gladioli were from six to twelve inches high and practically covered the ground. I then thought maybe our methods were not so bad.

In all our planting we make a furrow either with a shovel plow or a small one horse plow and sow the bulbs in this furrow, averaging for large bulbs about six to the foot and of small bulbs as many as twelve to the foot. And we do not attempt to place the bulbs right side up. This might pay if one has some boy help to do it and bulbs are large but is not necessary.

We then cover these rows with a shovel plow so they are well ridged up and leave them in this way until weeds are about to start growing, then drag the field cross-wise thoroughly, and then drag it at least once more before the bulbs are up much. If a few show it will not hurt them, but try and get the dragging done before they are up enough to show the rows.

When the rows show they will be a little higher than the ground between them, cultivate thoroughly and as near the rows as possible, drawing the earth away from the row. Then we rake these rows cross-wise with a garden rake, taking off the top soil and weeds that are starting, so after the bulbs have been planted four to six weeks and are coming up, we have a good clean row, and then with frequent cultivating and hoeing one can keep ahead of the weeds which is far easier and better than to let them drive you.

We plant bulblets just the same but much thicker and drag and rake the row the same; and keep cultivating and hoeing until we dig the bulbs. In a small garden this general plan might be followed and the work done mainly with a rake and wheel hoe.

This is much the same procedure as recommended by M. Crawford in his book "The Gladiolus."

Would be pleased to read the labor saving methods of other growers.

J. F. MUNSELL.

SOME INCREASE.

I have noticed from time to time accounts of extraordinary large numbers of bulblets produced from a single Gladiolus bulb, but I think I have smashed the record.

Last season I planted a single bulb of Kunderd's *Yellow Gem*, and on digging same in the fall I found by actual count 404 bulblets attached to it. Some increase!

My previous highest record was 306 bulblets from a bulb of *Crackerjack*.

HOWARD M. GILLET.

Northwestern Peony and Iris Society.

Are any of our members acquainted with the Iris *Lurida?* This Iris is a fall flowering plant in addition to giving bloom during the month of May. We quote as follows from an article in the January number of the *Garden Magazine* by Louise B. Wilder, well known author of splendid garden books:

"An Iris flower after the first of July is most uncommon and if my plants are peculiar in this respect I should like to know it. Mr. W. Richardson Dykes, mentions a Hungarian form of I. *Aphylla* as always flowering twice, (in May and again in August) and also a hybrid of I. *Chamaeiris* and I. *Trojana*, but the habit, even in his wide acquaintance among Irises is evidently unusual and he makes no mention of I. *Lurida*. I know that an Iris whose regular blossoming is interrupted by its being moved, will often give a flower or two at a later season, but with I. *Lurida* the habit is a fixed one, my plants having been in the same place for at least eight years and the October display has never failed. The late flowering is quite as free as the earlier one, that is the plants are well set over with dark, plum-colored buds, but in October these are sometimes frozen before they fully expand.

"Iris *Lurida* is a member of the Bearded Group of Irises, and is, according to Mr. Irwin Lynch, very close to I. *Squalens* and I. *Sambucina*. It is, however, quite without the fine perfume of the first and is considerably dwarfer than either. The flowers scarcely overtop the leaves. The standards are a bright plum color with copper lights and the falls are a darker, duller shade. The stem is three or four headed and the spathe three flowered. It is a very handsome and easily grown Iris for the front of the border. With me it grows luxuriantly in a dry situation and is one of my favorite Irises."

With the many new, beautiful varieties that are being constantly added to our list of desirable Iris that possess entrancing beauty and pleasing fragrance, the addition of a fall flowering variety possessing equal attributes would be a valuable acquisition to any collection. Will be pleased to hear from any of our members having had experience with any of the Irises named, or any other variety having like proclivities. Iris *Lurida* should be a desirable sort to propagate with a view of improving and originating new varieties of fall blooming habits. I trust we may hear more about this variety from our members who have had experience with the raising of same. To my knowledge this variety is not offered for sale by any American growers. Can any of our members advise me where it can be procured?

W. F. Christman, Sec'y.

H. E. Meader, Dover, N. H., sends us a handful of *Liberty* cormels. These average three-quarters of an inch in diameter and are, we think, the largest and strongest looking cormels, or "bulblets" we have ever seen.

There has hardly been a time this winter when bulbs could not be shipped with perfect safety by express or Parcel Post. We may get more severe weather in March.

Growing Sweet Peas.

Edwin Jenkins, Massachusetts.

Many who have seen the wonderful Sweet Peas exhibited in Great Britain—stems a foot and a half long, surmounted by four, and often five large flowers—have marveled, and wished that such Sweet Peas could be grown here in America. The writer believes it quite possible.

Get your seed from a reliable seedsman—and get the best varieties. The best time to sow the seed, to meet the requirements of the average grower, is about the end of February or the beginning of March; and the surest way to get a good percentage of germination is to sow the seed about a half-inch deep in sand.

Seed of all the reds, crimson or scarlet sorts will germinate quicker and more surely if a small piece of the hard seed coat is cut off. Do this with a sharp knife on the side opposite the bud or growing point. This chipping enables the seed to soak up moisture and may well be practised on all the colors, though it is more essential to the colors mentioned.

In a temperature of 55° to 60°, the seed should germinate in about a week, and must then be potted in soil, or planted out in boxes to grow along in a temperature of about 55°, until weather conditions will allow of out-door planting. This out-door planting must be done as early as possible, and the plants protected at nights from frost. A good way to protect the plants in the row is to nail two boards together, so as to form an inverted V, and set it over the plants at night until danger from hard frost is past.

Do not despair of raising good Sweet Peas if you are without a greenhouse, or even a cold frame; much may be accomplished by a little forethought and a little ingenuity. A flat, 24 in. long by 12 in. broad takes up but 2 sq. ft. of room, and may be set in a house window. It is easily moved from place to place, holds about 100 plants in paper pots (which are 4 in. deep) and will give the plants plenty of room until they can be planted out. Now, these plants are enough to plant a single row 100 ft. in length, or a double row 50 ft. long, which is as much as many people can handle. Further, they will bloom longer and give superior flowers to any that may be planted closer; in fact a good sturdy plant set out in fairly rich soil will fill the space if planted 2 ft. apart.

The question may be asked: why go to this trouble of sowing seed inside in sand and transplanting afterwards when we can sow outside in the open ground? The reason is: first, to ensure germination; secondly, to develop a healthy, sturdy root system before the plants make much top-growth; and, thirdly, because that great teacher, experience, has taught us that it is the better method, and the only sure way of getting satisfactory results.

While Sweet Peas may be planted in groups, or in various other ways, yet where the main consideration is the production of flowers for house decoration, double rows, with the plants set alternately about a foot apart either way, and five feet from center to center if several rows are planted, will be found to give the best results. Take all precautions to avoid checking the growth of the plants. Be sure that they are always supplied with water while growing in the pots or boxes, and select a cloudy day for transplanting to their permanent growing place. Do not expose the roots any longer than you can help when planting, and firm the soil thoroughly around the plants when they are planted. The importance of a firm soil is very often overlooked by beginners.

If you are going to plant only one single or double row, dig a space of at least two feet on each side of the center of the row, and if you are going to plant parallel rows, set five feet apart from centers, then you will dig and manure the whole space. After the ground is dug, and before it is raked add one pound each of ground bone-meal and air-slaked lime to each three square yards of ground.

Look ahead in this matter of supports and determine what you are going to use before you actually need it. If you find that two inch wire netting six feet high is the only material you can use, get it in place before the plants are set out. We prefer good brush to the wire netting, and this may also be placed first, and then the plants have something to get hold of right away. Nothing so appals the young Sweet Peas plant as to find itself without any visible means of support, and to be allowed to sprawl on the ground in a helpless manner. Sometimes it is necessary to give the plants a tie to start them up the supports, and the enthusiastic grower will not begrudge this little extra work.

MULCHING AND WATERING.

After the plants have started well into growth and the sun has warmed up the soil, a good mulch of strawy litter and half-decayed leaves will be of the greatest benefit to them, both in conserving moisture, by cutting off evaporation, and in keeping the soil from baking and getting too hot. Be liberal in the amount of space you cover on either side of the plants with the mulch, but do not put it on too heavy, about three inches is enough. Watering must be attended to as regularly as the soil appears to be on the dry side; and when it is done be sure to be thorough and give a good soaking. Half measures are worse than nothing at all.

Assuming that the ground has been well manured, as advised in the preparation of the soil, no great amount of feeding otherwise will be necessary, except that after the plants have been flowering for a week or two and the stems begin to show signs of shortening, a little stimulant, such as a light dose of nitrate of soda, or a dusting of dry blood well watered in, will be very beneficial; and as a tonic which will brighten up the colors of the flowers, and generally do good, a dusting of soft coal soot about every ten days over the whole soil is well worth while.

As one of the chief characteristics of the Sweet Pea is that the more you pick the more you have, the sprays should be gathered every day as soon as all the flowers are developed, and to do this, use a sharp knife and cut them close to the base; plucking the stems out by force is rather unkind treatment and apt to injure the vines.

A light covering of cheese-cloth, or some other light material, must be put over the salmon and orange shades if you would get these most beautiful colors at their best, because a very little sunshine bleaches them out completely.—From *American Sweet Pea Bulletin*.

Early in the winter we pointed out to Gladiolus growers that a good opportunity was offered them by their weak-kneed competitors who were inclined to cut prices with a view to closing out and reducing stocks. Of course we are not gifted with second sight and we did not know at the time that the market was going to advance as promptly as it did. A number of well-known Gladiolus growers report that practically all of their stocks except what is reserved for their own planting has already been sold. This is proof enough that the Gladiolus is booming, and other flower growing is booming also.

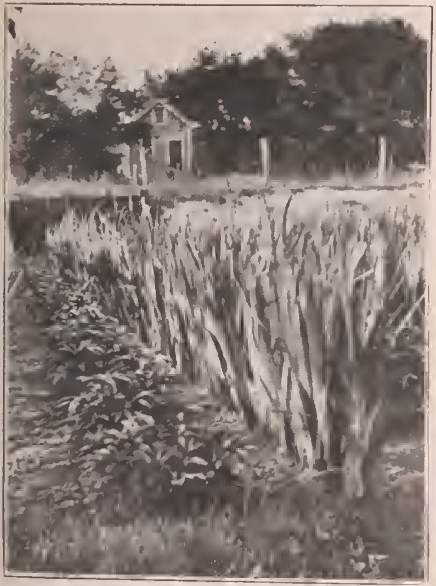
MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

Economy of Planting Space in the Garden.

THE CHANTICLEER on the weathervane faces the south as if he fain would fill his iron lungs with the air that is fast becoming balmy with the sweetness of a new springtime. Inquisitive noses are poking their way up through the soft cool soil, and the old red "Piney" defying the discourteous scratching of neighborly hens, is giving promise of wonderful gorgeousness in the near future. The gardener is studying the latest spring fashions, not of coats or trousers, but the particular style that he wishes his garden to be, for gardening has become a fashion and its styles are as many and varied as its followers.

When loved ones were in peril and the raising of foodstuffs such a dire necessity, millions armed themselves for their struggle with the soil, not realizing that they were donning the mantle of one of the greatest fashions to be, that the world has ever known. A fashion that is bound to become the custom of a nation.



View in garden of Wm. Anderson, St. Paul, Minn., illustrating economy of planting space.

The war gardens were devoted almost entirely to vegetables, but the gardens of 1919 will express the joy and exultation of Victory by their multiplicity of flowers. Many who never before knew the pleasure of growing their own flowers cannot imagine the possibilities for beauty in the little back yard or a bit of vacant land. Perhaps the parks with their curving drives, large plantings and massings of flowers and shrubs, have been misleading and are partly responsible for the idea that large areas are needed for the successful culture of things in the line of flowers, but the small plot may have a style of beauty entirely of its own. The puzzle that confronts the gardener with the little plot is how to plant to best advantage. He wishes some annuals, and for quick effect they are a necessity, but he also wishes for the permanent plantings of perennials and shrubs, and must have space for the Gladiolus whose splendid beauty glorifies the garden in the summer months.

The illustration shows a portion of a small commercial garden in which economy of planting space is well carried out. In the distance where the hill has been cut away, tomatoes were planted and instead of allowing them to grow in bush form and cover unnecessary room, they were trained against the wall, which did not at all interfere with their growth for they averaged 8½ feet in height and, when I saw them, were loaded with fruit. The variety was Ponderosa, not at all noted for climbing habit, but shows what can be done when special effort is made.

In front of the tomatoes and where the vines would be if allowed to remain on the ground, is a bed measuring 6 ft. wide by 16 ft. long, in which are planted Lily bulbs—the Myrophyllum Lilies. A new and rare variety closely resembling the Easter Lilies forced in the green houses for Easter decoration. This, however, differs from the Easter Lily in that it is perfectly hardy even in the severe climate of St. Paul, and any one may now have this beautiful Lily growing in their hardy garden. This Lily bed is a veritable goldmine and only covers ground that usually goes to waste in most gardens.

The Peonies pictured, were planted 4 ft. between the rows and 2 ft. apart in the row. The distance between rows allows plenty of room for Gladioli to be planted the first two summers while the Peonies are becoming established.

For the most economic planting and best results measure the plot, select varieties you desire and study their requirements both for space and cultivation and plant according to the ground room. Put every inch of ground in use but do not crowd the plants. Profit by the experiences of others which may be found in the pages of THE FLOWER GROWER.

MRS. A. H. AUSTIN.

Flower Growing for Children.

The refinement that floriculture gives one cannot be found elsewhere on the farm. Fruits and vegetables may be cultivated with some degree of pleasure, livestock demand and receive our sympathy and tender care, but flowers are attended with reverence.

Children delight in helping prepare flower beds. They will take a pride in transplanting, watering and training flowering plants. The flower garden will have their best care and closest attention.

If you have never set aside land for a flower garden try it this year. Select the site in some sheltered, retired place near the home and let the children be responsible for it. Let them take their note books and keep a record of the different flowers, when planted, when germinated, when flowers are formed, how long their flowers remain and when seeds are found. It will be an opportunity for them and the children may cheer the sick, comfort the bereaved and lighten the heavy-hearted with the flowers from their garden.—*Farm and Ranch.*

Gladiolus America.

HINTS TO FLORISTS FOR FORCING.

Even if you haven't made a great deal of money out of your Gladioli which flowered during August, when everybody had them, you should not overlook planting a good number of them for early Spring blooming now. Gladiolus *America* is like the *Enchantress* Carnation; its beautiful soft daybreak pink color makes it useful for almost any occasion and on that account, with the smaller retail grower, the one who has only room for a limited number for planting, this variety has the preference over any other. If you want to plant just one sort and get the most out of it, plant *America*. You may have a bench of Carnations or Roses or for that matter anything else which doesn't look any too well and will need considerable nursing and weeks of care in order to be able to bring returns. Why not clean the stock out, forget about it and replant with something else? That doesn't mean that all of the space should be devoted to Gladioli, but reserve some for them.

To get the most out of indoor Gladioli, and from the point of view of the retail grower, I should suggest making four plantings; the first February 1st, the second about March 1, with one March 20 and April 10 to follow. This will give you a succession of flowers from April on up to the time the first outdoor ones begin to appear. You can use a Gladiolus spike from the day the first flower is open until the last half dozen buds begin to show color, and have use for the flowers right along, and on that account we should arrange it so that we have a supply to draw from right along, and it is far better to be obliged to run short occasionally and have to buy on the market than to plant 1000 bulbs at one time and not be able to dispose of the flowers to advantage. If for any reason you have no room at present for the planting of Gladioli, instead of waiting until you will have, pot the stock up into 4's and place into a 50° house; along a walk will do for a few weeks until the pots become filled with roots and the tops need more light, when they should be planted out.—*Florists' Exchange.*

Removing Tops from Gladioli at Digging Time.

To one this far south, (Carthage, Mo.) the injunction not to tear the top from the bulb at digging time, but to cut it off, sounds rather ridiculous. With us at digging time if we pick up the top the bulb falls off, and if we pick up the bulb the top falls off. We are not so very far south either.

B. C. AUTEN.

Where the foliage fully ripens before digging the corm, it is not, of course, necessary to cut off the top. However, a very large part of the Gladioli grown are dug while the tops are still green.—(EDITOR.)

American Gladiolus Society.

GLADIOLUS GROWERS :—

The American Gladiolus Society wishes to make the next exhibition the largest exhibition of Gladioli ever staged in America. Some growers have already sent in their prize offers. We should have many more of them. We should have more prizes for table decorations, bouquets, etc., to illustrate the many uses of the Gladiolus. If you have not sent in your offer, please do so at once. If you are not already a member and wish to offer a prize for any variety, send in your offer and it will be published. If your offer is mailed promptly it will be announced in the next number of THE FLOWER GROWER for the benefit of prospective exhibitors. We want a large and, at the same time, a representative exhibition of the best varieties grown today. Address until May 1 as follows:

A. C. BEAL,
6904 Sunset Blvd.,
Los Angeles, Cal.

The following special prizes are offered for the next exhibition of the American Gladiolus Society, which probably will be held in Detroit, Mich., if suitable local arrangements can be made. Announcement of time and place will be made in these columns as soon as this can be definitely settled.

SCHEDULE OF PRIZES.

NON-COMMERCIAL GROWERS.

Charles F. Fairbanks, Boston, Mass.

	1st	2nd	3rd
Best vase 10 spikes Pink, one variety	$4.00	$2.50	$.150
Best vase 10 spikes Red or Crimson, one variety	4.00	2.50	1.50
Best vase 10 spikes Yellow, one variety	4.00	2.50	1.50
Best vase 10 spikes White, one variety.	4.00	2.50	1.00
Best vase 10 spikes Blue, Purple or Lavender, one variety	4.00	2.50	1.50
Best vase 10 spikes any other color, one variety	4.00	2.50	1.50

T. A. Havemeyer, New York, N.Y.

	1st	2nd
Best vase 10 spikes *Primulinus Hybrids*, Orange	$5.00	$3.00
Best vase 10 spikes *Primulinus Hybrids*, Yellow	5.00	3.00
Best vase 10 spikes *Primulinus Hybrids*, any other colors	5.00	3.00

C. S. Tait, Brunswick, Ga.

	1st	2nd
Best vase 10 spikes *America*	$4.00	$2.00
" " " " *Mrs. Frank Pendleton*	4.00	2.00
" " " " *Baron Joseph Hulot*	4.00	2.00
" " " " *Niagara*	4.00	2.00

H. E. Meader, Dover, N. H.

Offers stock to the values named as follows: Best 6 spikes *Myrtle*, 1st prize, $5.00; 2nd prize, $2.50.

W. E. Fryer, Mantorville, Minn.

Best 12 spikes *Mrs. W. E. Fryer*; 1st prize, 50 bulbs of that variety.

Henry F. Michell Co., Philadelphia, Pa.

Largest and best display. First prize, Michell silver medal. Second prize, Michell bronze medal.

W. E. Kirchhoff Co., Pembroke, N. Y.

Best 3 spikes *General Pershing*. First prize, $10.00; Second prize, $5.00.

Jelle Roos, Milton, Mass.

Best 6 spikes *Mrs. Dr. Norton*. First, Silver Cup; second, Silver Medal; third, Bronze Medal. Best 12 spikes *Mary Fennell*. First, Silver Cup; second, Silver Medal; third, Bronze Medal.

Joe Coleman, Cleveland Road, Ravenna, O.

Best 6 vases, 6 varieties, one spike each, predominating color, Blue, Purple, Lavender or Mauve. First prize, $3.00; second prize, $2.00.

Carter's Tested Seeds, Boston, Mass.

Best vase 25 spikes *Primulinus Hybrids*, $10.

A. H. Austin Co., Wayland, Ohio.

Best 10 named varieties, 1 spike each. First, $5; second, $3; third, $2.

C. Betscher, Dover, Ohio.

Best 6 spikes Red variety. First prize, one Peony, *F. E. Willard*, value $10; second prize, 10 bulbs Gladilus *Crimson Glow*; third prize, 5 bulbs, *Crimson Glow*.

Best 6 spikes White variety. First prize, one Peony, *Chestine Gowdy*, value $10; second prize, 10 bulbs *Crimson Glow*; third prize, 5 bulbs *Crimson Glow*.

Best 6 spikes Pink. First prize, one Peony, *Prim*, value $10; second prize, 10 bulbs *Crimson Glow*; third prize, 5 bulbs *Crimson Glow*.

Best 6 spikes Yellow. First prize, one Peony, *Longfellow*, value $10; second prize, 10 bulbs *Crimson Glow*; third prize, 5 bulbs *Crimson Glow*.

Best 6 spikes *Crimson Glow*. First prize, $10; 2nd prize, $7.50; 3rd prize, $5.

J. F. Munsell, Ashtabula, Ohio.

Best 6 vases, 6 varieties, one spike each, predominating color, Red or Pink. First prize, $3; second prize, $2.

G. D. Black, Albert Lea, Minn.

Offers stock of *Blackhawk*, *Jumbo* or *Summer* to the values named below:

Best collection 10 named varieties, 3 spikes each. First prize, $5; second prize, $3; third prize, $2.

OPEN TO ALL.

Richard Diener, Kentfield, Cal.

Best spike of *Dr. Frederick J. V. Skiff*. First prize, $15; second prize, $10.

Willis E. Fryer, Mantorville, Minn.

Best 12 spikes, *Mrs. W. E. Fryer*. First prize, 50 bulbs of that variety.

H. E. Meader, Dover, N. H.

Best 12 spikes *Myrtle*. First prize, cut glass vase, value $10; second prize, 25 bulbs of that variety.

Mrs. Francis King, Alma, Mich.

Best and most artistically arranged basket or hamper fifty spikes Gladioli using different varieties in harmonious combination. First prize, $12.50; second prize, $7.50; third prize, $5.

Chautauqua Flowerfield Co., Bemus Point, N. Y.

Best and most artistically arranged vase of 25 spikes. Prize, $10.

W. Atlee Burpee & Co., Philadelphia, Pa.

Largest and best display, number varieties, quality and staging considered. Burpee Cup valued at $25. The winner taking this cup the third time to hold it permanently.

B. Hammond Tracy, Wenham, Mass.

Best vase 25 spikes *Primulinus Hybrids*. Prize, $10.

C. Betscher, Dover, Ohio.

Best vase or basket 25 or 50 spikes *Primulinus Hybrids*. Range of color, size and color value to rule. First prize, one Peony, *Longfellow*, value $10, and one Peony, *Chestine Gowdy*, value $10. Second prize, one Peony, *Therese*, value $10.

New Members Wanted in the American Gladiolus Society.

As an evidence of his public spiritedness and to help stimulate an interest in the American Gladiolus Society and indirectly in the Gladiolus as a flower, H. E. Meader, the well known Gladiolus specialist of Dover, N. H., and Vice-President of the Society, offers a beautiful cut glass vase valued at $10.00 for the member of the American Gladiolus Society who sends in the largest number of new applications for membership in the society before the next annual meeting in August of this year.

While membership in the society was somewhat depleted during war conditions, there has been a big renewal of interest already and we look for an enormous boom in membership during the next few months. The competition for Mr. Meader's beautiful vase is not in any way limited except to members of the society and it is hoped that much interest will be manifested.

Make Use of Spent Bulbs.

In these days of conservation, why not determine to waste less in the florists' business? Instead of throwing away forced bulbs of white and yellow Narcissi, Chinese Narcissi and Roman Hyacinths, dry them off, and next fall plant them along the edges of your solid beds. They will take hardly any room, and while they will amount to nothing the first year, they will become naturalized, and after that they will throw up many flowering spikes. We have had the Chinese Narcissus (Joss flowers) at the edge of solid beds for six years, never disturbing them more than necessary. Each year there are more flowers to the bulb than the year before. Some bulbs this year threw six or seven flowering stalks each. This week a customer offered us 500 Paperwhites she had forced in the house in water. We took them because we knew we could use them and make them pay for their keep. We have 150 feet of Paperwhites in flower now, along the walks in one of our houses. The bulbs were all previously forced before planting permanently, and would, by most, have been thrown out as useless. Besides, such bulbs flower earlier than any you can buy. The Chinese Narcissi were in bloom last November.—M. LOWERY in *Florists' Exchange*.

Young Jack Champe and the bright red Dahlia *Kalif*, grown by Raymond W. Champe, Walled Lake, Michigan.

One or Many?

There is no word in general use in the trade to which more frequent violence is done than is perpetrated on "Gladiolus." The penultimate "o" in this word is short and the accent, therefore, as Latin, properly falls on the antepenultimate, in spite of the fact that the use of the long "o" accented is common in colloquial usage.

But the greatest violence is done by those who do not distinguish between the singular and the plural. Gladiolus is one; Gladioli are many. Gladioli have become extremely popular with the public and the demand for Gladiolus bulbs will be heavy right after the holidays. There are many millions of Gladiolus bulbs of American production this year, but the Gladiolus growers in Holland will not ship the usual quantities of bulbs this season.

When in doubt as to a choice of the words, Gladiolus or Gladioli, try the sentence substituting Rose or Roses; it is a test which enables most florists to be sure they are right.—*Florists' Review*.

Garden Preparedness.

BERTHA BERBERT HAMMOND.

[*Written expressly for The Flower Grower.*]

The hap-hazard planting of seeds or roots in poorly prepared or unsuitable soil is not likely to result in a satisfactory or highly productive garden. While some plants may thrive in spite of odds, intelligent assistance rendered nature at the proper time, will accomplish the most surprising results not only in increased yield but also in improved quality. Preparedness will do much to minimize the difficulties in gardening and the uncertainity of results. Before it is time to do any actual planting, outline a definite working plan and time table for the 1919 garden. Next secure as liberal a supply of good fertilizing material as is possible under present conditions, then determine what seeds, roots and bulbs for spring planting will be required, and place the order for same at once with reliable seedsmen.

If space is limited, the garden plan should provide for early crops, intercrops, and succession of crops, thus making an increase of yield possible by keeping every square foot of growing space fully occupied during the entire season.

In the flower garden plan to plant as far as possible for a continuous succession of bloom, harmony of color combination, and for permanence, so that in after years there may still be:

> "Flowers that help the sun to shine
> On some other life than thine."*

As the statute prohibiting the importation of German potash intended for American manufacturers of fertilizers is still in force and will be at least until the actual peace treaties are signed, there is still a great scarcity of potash. All fertilizing materials are high in price and some kinds are not obtainable in sufficient quantities, if at all. Such conditions make the saving and utilizing of all sorts of farm manure important. In the past, little thought has been given to the conservation of the valuable fertilizing elements contained in vegetable waste and other garden refuse, which, when properly composted may be used for a number of purposes to as much advantage as the now expensive and scarce commercial fertilizers.

Another essential factor in successful gardening is to plant as early as the weather will safely permit, the very best seeds obtainable. As orders booked with seedsmen are usually filled in the order received, early orders are likely to be filled with more care and possibly with the best stock. The danger of distribution of seeds poor in quality has, however, been lessened by the efforts of the seed testing laboratories of the U. S. Dept. of Agriculture and also by the enforcement of the seed importation act, by which the entry of a number of shipments of seeds of inferior quality have been prevented. Recently a shipment of nearly 1,700,000 pounds of red clover seed was refused entry because of the presence of weak seeds unfit for seeding purposes.

With the gardens well planned in advance, provision made for adequate fertilizing, and good seeds in readiness to start at the earliest possible safe date, the 1919 garden when planted and carefully cultivated should prove not only successful but bring both pleasure and profit to the garden-maker who has taken "Time by the forelock."

> "They who dream must also do,
> Every sky contains some blue,
> But when fancy mates with toil,
> Then indeed the rocky soil
> Yields its kindness to the hoe."*

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* Bentztown Bard, Southern Press Syndicate.

One Way for the Amateur to be Useful.

That great gardener, the late F. W. Burbridge, Curator of Trinity College Gardens, Dublin, in one of his books, gave this general bit of advice in connection with Daffodils: "Raise seedlings, if you can cross-fertilize or hybridize, but, at any rate, raise seedlings." There is no doubt that he meant that there is an immense amount of pleasure to be got out of raising one's own seedlings, and that it far transcends the getting together of a collection by purchase or exchange. First, I would extend Daffodils to all flowers, fruits and vegetables. Second, I would like to urge that the raising of good and new varieties may be by no means an altogether unremunerative pleasure. Third, I would point out that where this hobby is carried on with care and discrimination, it becomes like charity, capable of giving a double blessing, or, at any rate, a double benefit. Good, new varieties are a distinct gain to the whole gardening fraternity, and in some cases even to that vastly important person, the general public, as anyone can easily see that a more productive wheat, or a better flavored plum would be. My text said "useful"—this is my meaning: the gardening public like a change. Nurserymen and dealers have not the time to give to much seedling raising themselves—it is out of their line. They welcome, however, new varieties, and are glad to purchase the same from amateurs. As an instance, we have the grand Montbretias, raised by Mr. Sidney Morris, of Earlham Hall, Norwich, which were exhibited in London last August, and to which the high award of a gold medal was given. These are now figuring in Wallace and Co.'s (Colchester) autumn list for 1918. In more than one case the pecuniary reward has been so good that amateurs have passed over to the ranks of traders and are able to make quite a good thing out of their wares. To show that among certain races of flowers, the practice of raising new varieties from seed is not uncommon, a rule in the National Rose Society's schedule provides for anyone selling the stock of such variety without losing his status of amateur. Putting aside, however, all idea of gain, and of even expecting to make expenses, the hobby of seedling raising is most fascinating and engrossing. The pleasure of gardening is more than duplicated from the owner's point of view, while to the visitor "who is keen" it makes the whole difference, and as to the garden itself, it is transformed into a mecca whither all who take an interest in that particular speciality are wont to resort.

How numerous are the pleasures of all such intelligent work! There is the thinking and consulting, "what shall I go in for?" There is the planning and considering of how best to carry out the end in view; then "how to get the best varieties," and then "what crosses should I make?" There is the care and the watching and the wondering, "what will it be like?" Lastly, there is the arrival at the stage when the result may be seen and judged. The time of the "swans." The time of enjoyment. Home-made jam, home-grown vegetables, these are typical of the joy of seeing a home-produced new flower, only the pleasure must be intensified to understand it fully. The pleasures and satisfactions are manifold, and very real. To have, let us say, flowers or fruit, of which we ourselves are foster parents, to show our neighbors, creates within us—well let us say the same feeling that widow Brown had after her third husband had been buried: "Did you go to Smith's funeral?" "Yes, I did; and a measly affair it was. Tea and bread and butter! Ugh! I've buried three husbands, but, thank goodness, I've buried them all with seedy-cake an' 'am sandwiches!"—From Garden Notes by J. JACOB in *The Queen.*

My War Garden Work.

[*Continued from page 21.*]

a part of it.) I lost very few bulbs. The *Primulinus Hybrids* gave wonderful returns in good sized bulbs and many bulblets. *War, Golden King, Mrs. Frank Pendleton* and others gave little increase, but I have a fine lot of well formed bulbs for 1919.

At the end of the season I had one hundred and fifty-five dollars from the sale of flowers and did equally as well with the fruit and vegetables. There is about half an acre in the vegetable garden, and less than half as much in the flower beds. I had a variety of flowers which proved good for retail purposes, but for wholesale selling I would stick to a few sorts, and our much loved Gladiolus comes first on my list. We should not cease our labor—there is still urgent need for "Victory Gardens," more food and more flowers.

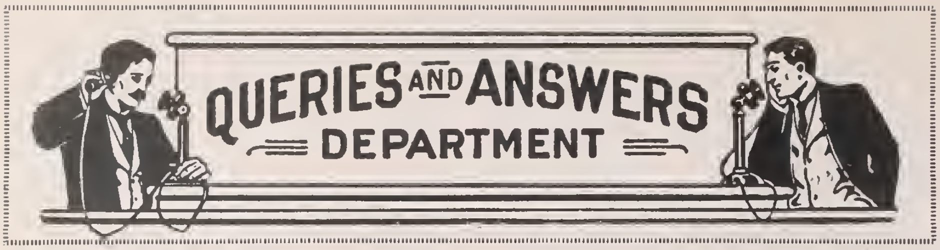
Catalogues and Price Lists.

John J. Prouty, Baldwinsville, N. Y.—1919 retail Gladiolus price list of selected varieties and collections.

Flora-croft Gladiolus Gardens, Hoisington & Glassbrook, 121 Island Ave., Lansing, Mich.—Eight page retail catalogue of a very select list of varieties of Gladioli. Also, Irises, etc.

B. Hammond Tracy, Wenham, Mass.—Catalogue and price list of Cedar Acres Gladioli. Many fine illustrations and excellent descriptions.

B. F. Stalnaker, 1525 E. 15th St., Brooklyn, N. Y.—Gladiolus Color Harmony and Tint Book. Something new in Gladiolus catalogues. Color description and classification which will be interesting to Gladiolus growers—28 pages and cover.



[This department of THE FLOWER GROWER is intended to be one of its most helpful and valuable features. All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication.]—EDITOR. .

Do Gladioli in Mixed Bed Affect Each Other?

TO THE EDITOR:—

I am inclined to believe that in a mixed bed of Gladioli containing red and dark purple there is a tendency for the entire lot to become dark colored. If the dark colored ones were cut off as they appeared would that eliminate the trouble? These Gladioli are Groff's hybrids, mixed, so that I cannot separate them before planting, but I thought that by cutting off the dark flowers as they came into bloom it would prevent the pollen from mixing, and the lighter flowers would not be affected.

M. E., Iowa.

Answer:—I do not think it possible for red varieties of Gladioli to affect light varieties because of their being planted together or near each other, and I have never heard of such a thing. What happens is that dark colored sorts are apt to be stronger growers than the light colored kinds and if these two colors are in a mixture the dark colors will predominate in a few years, simply because they multiply much faster and perhaps some of the light colored plants die out or are very shy producers, and it would seem that the light colored ones have turned dark, whereas the latter have simply disappeared altogether or have simply held their own while the dark ones multiplied and thus predominated the mixture.—I. S. H. in *Florists' Exchange.*

Temperature for Holding Cut Flowers—Shipping Boxes.

TO THE EDITOR: —

From your experience what temperature seems best for storing cut spikes of Gladioli, and when shipping to the flower shows are corrugated boxes safe packed tightly in hot August weather with no openings or ventilation?

F. M. H.

Answer:—The temperature at which cut Gladioli should be stored before shipping would depend on how long they need to be kept. A temperature of 50 F. is low enough for short carry and we would not put them in a lower temperature than this unless they were to be kept a week or more. When cut two or three weeks in advance of the flower shows they may be stored at a temperature of 38 to 40 whereas those which are cut only a few days before the show should go into a temperature of 50 to 55 .

While we have not used corrugated paper boxes for shipping cut bloom to flower shows, yet such boxes are often used for this purpose. Most any package will answer that is strong enough to protect the rather heavy load of cut bloom, and there is no necessity for ventilation so far as our experience goes. Some growers pack their stock rather tightly, but in rather thin layers, not more than two or possibly three inches thick, each layer in trays, the trays in tight wooden boxes. Our own preference is for shipping in metal cans containing water, the cans in crates, with the spikes standing upright, and they should be packed quite tightly to prevent moving about in the crate. The crates are open at the top which gives ventilation to the top of the spike. The spikes are done up in bundles of about twenty to twenty-five each wrapped with newspapers, the bundles open at the top, and also at the bottom, of course, where the stems set into the water. A description of this crate will be given in some issue of THE FLOWER GROWER between now and cut flower time.

The Glad Philosopher's Musings.

Mr. Lee R. Bonnewitz, a prosperous merchant of Van Wert, Ohio, is an amateur Peony enthusiast who spends much of his spare time in his garden. One day, one of his business associates found him there at work, and asked him with surprise, "Mr. Bonnewitz, why are you doing this kind of work?" "My dear sir," replied Mr. Bonnewitz, "I am working in these Peonies now so that when I am eighty years old I shall have grown into a happy, likeable old gentleman."

And the Glad Philosopher predicts that he will attain the eighty years, and then some, for there is no surer form of life insurance than the very hobby that Mr. Bonnewitz has adopted.

Going up street the other day I met an old friend, a happy-faced bright-eyed young man of ninety years, plus two or three more, walking without a cane, and whistling as merrily as a schoolboy. As a list of this venerable gentleman's friends would embrace the name of every person who ever knew him, I am impelled to express my belief that a likeable old gentleman is one who never practiced in his earlier years the gentle art of making enemies.

Some years ago a merchant of my acquaintance broke down in health because of too close attention to business with no relaxations—the inevitable result—and became morose and neurasthenic. He began taking long walks into the country, but as he always went alone and kept his eyes fixed on the ground, his walking did little for his condition. One day late in autumn, while out on a botanical jaunt, I saw him coming and knowing that the adoption of some interesting out-door hobby would do him a world of good, I halted him and casually called his attention to some of the wild flowers growing around us. I plucked ladies' tresses and showed him the peculiarly twisted racemes of fragrant, waxy flowers that give this beautiful little orchid its charm. Failing seemingly to arouse his interest I determined to have another try, and spying some bottle gentians I called his attention to their unusual deep, rich violet-blue color and the peculiar freakish formation of their closed corollas Still no sympathetic response. I told him of the pleasure I got from walking and forming acquaintance as I walked with the wild flowers and the birds. He listened respectfully, grunted and passed on, head down as before. "Poor devil," I thought, "I cannot help but pity you after all." And he, probably, as considerately pitied me!

John Zeestraten, of Mansfield, Mass., the well-known Gladiolus grower, keeps chickens which are allowed to roam over his place. One day last fall, J. Z. had some bulbs of one of his choicest varieties out curing in the sun when one of his hens came along and greedily ate up all the bulblets. Instead of bemoaning his luck or bewailing his loss, or even indulging in a riotous outburst of profanity as some might have done, John, being a resourceful man, grabbed the ax and started after that hen. After several laps around the barn he caught the culprit, cut off her head, removed the precious bulblets from her crop, and the next day the Zeestraten family had chicken for dinner.

THE GLAD PHILOSOPHER.

BULBLET SPECIAL

PENDLETON, exquisite salmon pink with blood red blotch, 100, 25c.; 500, $1.00; 1000, $1.75.

SCHWABEN, sulphur yellow, extra fine, strong, 100, 25c.; 500, $1.00; 1000, $1.75.

PRINCE OF WALES, gorgeous salmon, scarce, 100, $1.00; 500, $4.75; 1000, $9.00.

ALL POSTPAID ANYWHERE.

Raymond M. Champe
Walled Lake, Oakland County, Michigan
New and Rare Bulbs and Hardy Plants of Proven Merit
Gladioli, Dahlias, Darwin Tulips, Iris, Peonies, Phlox

THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

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FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
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CULTIVATING WILD FLOWERS.

[*Written expressly for The Flower Grower.*]

BY M. EMERSON MAIN.

LISTED IN THE catalogs of many of the best nurserymen of the country will be found, under their Latin names, numbers of wild flowers which lovers of them may have simply by using care in transplanting. Many a caution has been printed in regard to removing them and attempting to grow them in the garden, and the would-be grower thereby discouraged. Wild flowers can be successfully transplanted and grown if a few simple rules are followed. In my garden are plants from roots and seeds from Oregon, California, Texas, Vermont, Ohio, and many other states. Oregon Grape, Texas Rain Flower, Vermont Spring Beauty—they have lived and thrived.

Take up the plant when in bloom. You'll then be sure what you're getting. For removing use a stout-bladed, big knife and with it held slanting, cut around the plant forming a cone-shape bit of dirt around the roots. Wet cotton or sphagnum moss should be wrapped around the root, and if one is walking and weight is a consideration, the roots my be freed of dirt and then wrapped. On reaching home put the plants in water to cover roots until next day. When setting out dig a hole big enough to spread the roots as they grow, fill half up with dirt and then with water. Let settle and then fill up with dirt. Don't put any water on top the ground. Shade, if necessary, for a time. After setting cut off all big leaves and bloom stalks. Give soil as near like the original as possible, but don't be afraid to set them out in what you have. Cardinal Flower, Fringed Orchis and Arum will grow on dry land.

GLADIOLUS—*MISS HELEN FRANKLIN.*

A new ruffled white with violet stripes. Originated by A. E. Kunderd and sold to Thomas Cogger in 1916.

Awarded first prize in New York in 1917; Silver Medal at Boston Horticultural Society show in 1918. First prize in Open Class at Boston, 1918.

Flowers growing by the roadside usually may be taken without permission, but it is wise to ask permission to get them from field or wood if near a house. Few land owners will refuse permission. From seaside haunts one may get Dusty Miller; Golden Rod, with large, star-like florets in huge clusters; Marsh Mallows which can be grown from their seeds, and Sea Lavender which has myriads of blue flowers.

Wild Columbine, scarlet with yellow tips, is lovely in foliage and flower, and will grow in mere crevices. It can be grown from seeds or plants. Toadflax is fine under cultivation. Common Yarrow has lovely fern-like foliage and will grow and bloom in the hardest of soil. Pale Corydalis will grow in extremely shallow soil and self-sow under cultivation. Asclepias Tuberosa needs well-drained soil and will grow in a stone heap if there is soil enough to hold it. It hates removal, and seeds should be collected in September and sown in spring. Asclepias Incarnata has rosy-purple flowers and will grow anywhere. Meadow Rue is fine for backgrounds, but its greenish flowers have an unpleasant odor. Eupatorium Purpureum, Joe Pye weed, is good in backgrounds. Closed Gentians grow three feet high and give a fine blue for September flowers. Wild Rudbeckia, Black-eyed Susan, may be grown from plants

(*Concluded on page 38.*)

Hybridizing and Crossing the French Iris.

By William Rollins.

(Reprinted by permission from *Horticulture*, Boston.)

WHAT ARE THE CHANCES OF GETTING A PRIZE?

In the last fifty years probably several million Iris seed have been planted, either the results of artificial crossing or from plants that have seeded naturally, but only a few hundred are on the market. Out of these there are a dozen or more that are real aristocrats, using this term in its proper sense. Among a thousand plants raised from a year's crossing you will get many fine enough to give to your farmer neighbors, for their wives' gardens, to encourage the growth of the Iris in the country. If these are planted in rows in the vegetable garden the care will be so little the "men folks" will not notice it, while if they are asked to work in the flower garden they "kick," saying they are behind with the farm work. I find this little dodge works all right. Out of the thousand perhaps you will get two or three good enough to go into the hybridizing garden. One must raise many seedlings to draw a prize. However, the laws of chance work strangely. Cases are on record where an amateur raising new narcissi has quickly been favored with fortune, and as we all like a game of chance, growing Iris seed is a fine game.

TIME OF TRANSPLANTING FROM THE TRANSPLANT BED.

At the end of the second year remove all the plants, and prepare the bed for the next lot of seedlings. It is evident that to do this there must be two transplant beds.

LABELS AND RECORDS.

The painted labels used for marking the plants after crossing will remain legible, if an indelible pencil, so called, is used, until time to gather the pods, but cannot be trusted in the seed or transplant beds. My correspondent, Monsieur Dessert, sends his Peonies to America with labels that can be read after being under ground for two years, but I have not been able to duplicate these here, and recommend Farquhar's copper labels, which are five inches long $1\frac{1}{8}$ inches wide. These are intended to have the record made on them with a hard point. I do not like the method. Get a set of stencil letters and figures, one-quarter of an inch high. Perforate the labels and the printing will remain always clear. These labels have long and strong copper wires. When fastened to iron stakes they are most satisfactory. Marking the plants in this way and making the records to correspond is not enough for the seed and transplant beds, where the plants are near together, as the stakes get moved. There must be fixed points from which the distances of each plant can be measured. Iron pipe one and a half inches diameter and in pieces eighteen inches long is useful. This displacement of labels occurs in places you would not expect it. One spring I went to a celebrated botanical garden and saw more than a dozen labels that did not correspond with the plants. In a garden of hybrid seedlings this would have been fatal unless the owner had a system of fixed points and a record by which he could replace the labels. It seems to be a habit with many visitors to a garden to pull up a stake to look at the label rather than bend over to read it, and if they replace it within a few inches that is supposed to be all right.

RECORD BOOKS.

Quite elaborate directions for keeping records may be found in literature. Better make your own plan, for no two brains work alike. Summing up it may be written that the chief troubles of a hybridist are rain, excessive heat, bugs, misplaced labels and weeds.

Forty years ago I listened to a lecture by Emerson, in which he defined a weed as a plant whose uses we had not yet discovered. This made a great impression at the time, but long years of gardening cause me to think a better definition of a weed is a plant out of place. Surely we know the uses of grass and clover, but they are pestilent weeds in an Iris garden.

APPENDIX. Plant Anatomy—Stevens. Morphology of Angiosperms—Coulter and Chamberlain. Methods in Plant Histology—Chamberlain. The Cell—Wilson: Plant Breeding—DeVries. Species and Varieties, Their Origin and Mutation—DeVries. These books are remarkably clear and simple, and should be in the libraries of all gardeners who are interested in making new flowers.

Royal Horticultural Society.

Awards of Merit 1918.

The following plants received an award of merit at the meeting of the Royal Horticultural Society held on the 27th of August, 1918:

Montbretia Queen Mary—This glorious variety grows about a yard high and bears many branched spikes upon which numerous flowers remain open at the same time. The individual blooms are about two inches across, colored light orange-yellow, with deeper orange reverse, and small crimson marks at the mouth of the tube. The stems are dark and stout.

Montbretia Nimbus—This variety is of more upright habit than most, the side branches growing more erect than usual. The color of the flowers is deep gold, with a ring of soft red brown towards the base of the segments, and a few small markings of the same color at the mouth of the tube; a very free flowering and effective variety.

Montbretia Queen Alexandra—An erect, slender stemmed variety which bears moderate-sized flowers that are of unusually good, rounded form. The color is light apricot yellow, with purplish-red markings at the bases of the lower three segments; a very elegant variety. This and the two foregoing varieties were raised and shown by Sydney Morris, Esq., (gr. Mr. S. Henley) Norwich.

Gladiolus Prophetess (*La Prophetesse*)—A dainty variety with shapely flowers and good spikes. The blooms are cream white, with large red-brown blotches on the bases of the three lower segments. In form and texture the flowers are first rate. Shown by Mr. J. S. Parker, Upton Cheyney, Bitton.

Dahlias.

The following Dahlias received the R. H. S. Award of Merit and the National Dahlia Society's First-class Certificate:

Marion Walton—A charming garden Cactus Dahlia of great decorative value. The stems are long and stiff; the flowers, of fair size, are colored rich rose-pink, with buff shading at the bases of the central segments.

Purple Emperor—A very handsome and distinct decorative variety. The flowers are of large size and carried boldly on stout stems. The segments are broad and the blooms regular in outline. The color is deep purple-tinted maroon with bright purple reverse, the latter color showing up in the short, central segments.

Pennant—This handsome Cactus variety has large blooms composed of slender incurving segments that produce an elegant effect. The color is rich salmon-cerise, a distinct shade.

Meridian—A large Cactus Dahlia of fine form, with graceful, slender pointed segments and a neat centre. The color is pale straw yellow. Stems long and stiff.

These four varieties were shown by Messrs. J. Stredwick & Son.

President Wilson—A huge and gorgeous decorative Dahlia of splendid form and with very long, stout stems that carry the flowers erect. The broad segments have their edges somewhat reflexed towards the ends, thus producing a pointed effect that adds to the fine appearance of the bloom. Shown by Mr. J. T. West.

Southern Star—This is another addition to the "Star" group of Dahlias. This group consists of very useful varieties, particularly suitable for garden decoration and for supplying cut blooms. The variety has the same elegant form as its congeners, but the color is scarlet, streaked with yellow, and shading into pink at the tips of the segments. Shown by Messrs. J. Cheal & Sons.—*The Gardeners' Chronicle*, Eng. 31 Aug., 1918.

Outdoor Sweet Peas.

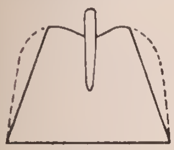
Just as soon as the frost has gone and the soil dried out sufficiently so as to be workable, the sweet peas should be sown outdoors. Be sure the ground in which they are to be sown has been liberally prepared. You cannot get good sweet peas in poor land. Dig or plow in plenty of well-rotted manure and work it down as deeply as possible. Special trenching is necessary for first class flowers of exhibition quality, but you can get good blooms without going to all that trouble. Sow thinly, cover the seeds two inches and do not hill them up as they grow, as is often recommended, unless you want to develop stem-rot. Leave the rows when covered somewhat hollowed to catch water. Sow such useful sorts as *Nora Unwin*, white; *Countess Spencer* or *Hercules*, clear pink; *Fiery Cross* or *Scarlet Emperor*, scarlet; *Florence Nightingale* or *Asta Ohn*, lavender and mauve; *Mrs. Cuthbertson*, rose and white; *Edith Taylor*, rose, and *Martha Washington*, white, suffused light rose. Pink is the best selling color; next to that pure white and lavender. Be sure to sow early. You cannot get good sweet peas if you wait until the ground is warm and dry. *Florists' Review.*

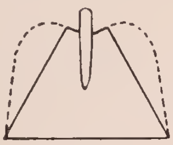
How I Grow Gladioli.

[Written expressly for The Flower Grower.]

By Willis E. Fryer.

I BELIEVE it is best to begin with the first work in the field in the spring, and planting bulblets is the first. These are planted as soon as the ground is in condition in April. Last season we began planting them on April 6th, and this is the earliest we have ever planted them. In planting them we make a shallow trench about three inches deep, and the width of a medium sized hoe. We use a hoe that is better in my estimation than any hoe on the market today. The upper rounding corners are cut off so that it is V shaped, and then it is sharpened so that it will cut as well on the sides as on the bottom. When you cut them do not cut off too much or it will not do as good work. Just try one and see how good they are. We are very particular about having the trench smooth and level on the bottom. If the trench is not this way the bulblets will roll to the center as they are sown, and you will not have an even stand.


Right way


Wrong way

The bulblets are sown quite thickly. They seem to germinate much better when sown thickly, and have grown No. 1 bulbs from bulblets, while bulbs 1 to $1\frac{1}{2}$ inch in diameter were quite plentiful. They are then covered about an inch deep with mellow soil, and then it is firmed well with the foot, and the balance of the soil is left loose, and raked to a sharp ridge over the row with an iron garden rake. This ridge serves two purposes; if we should have severe freezing weather after they are planted it protects them from freezing, and it can also be raked down as the weeds start and there will be very little weeding to do afterwards. The way we rake the rows is thus: As soon as the weeds begin to sprout it is raked lightly lengthwise of the row. At the third raking the rows are about level, the weeds are killed, and the little fellows are beginning to come up. We have raked bulblets when they were a few inches high with good success.

As soon as the bulblets are planted the smaller sizes of the bulbs are planted. These are planted in the same kind of a trench, but it must be deeper. Bulbs under $\frac{3}{4}$ inch are generally sown. If they are too thick in places they can soon be placed at the right distance.

If a large bulb is planted early in April, and one of the same size and variety is planted the middle of June there will not be so much difference in the time of blooming as you naturally imagine there would. When planted early the bulbs may lay dormant for nearly a month should the weather be cool, but if planted in June they start into growth at once. Last season we thought our early planted bulbs would never start, but on examination we found them in about the same condition as when planted. When one has a large amount to plant it is necessary to begin early, but I do not believe one will get much earlier blooms by doing so. Small bulbs are last to bloom and this gives one a succession of blooms.

Last season we tried a new scheme to rid the small stock from weeds, and it worked very well. When the sprouts are up a few inches they are so thick that it is impossible to work among them with a hoe, and we use a sharp stick to work among them to kill the weeds. If this is done after a rain, and when the ground is in the right condition nearly every weed is destroyed, and it is much faster than pulling them by hand later on.

We use a horse for cultivating, and use seeder teeth pointed at both ends for the shovels generally used on cultivators. By being pointed at both ends they do not leave the ground in ridges after cultivating, but it is smooth and mellow. We cultivate after every rain as soon as the soil is in condition, and if we have a dry spell we cultivate often to form a dust blanket to conserve the moisture.

I will describe the crates we use for they are used in digging, curing and storing the bulbs. These are made of strips $\frac{7}{8}$ x 4 inches, and these are nailed into a frame 18 x 30 inches. Then galvanized sand screen of different meshes is securely fastened on with small staples. If staples, the same as are generally used to fasten chicken wire are used, they are liable to cut the wire for they have a round head. We use a small staple with a square head. When the screen is nailed on, a lath is ripped in two, and nailed all around the crate over the screen. These strips cover up the ends of the screen, and the crate will last longer and be much better to handle.

Bulblet grown stock is dug first, and we never begin to dig these later than the middle of September. The tops are then green and the bulbs will not drop off in digging. We dig them thus: A four tined spading fork is pressed down as deep as the bulbs grow, and then worked under the row. Another party gathers up the tops of the bulbs that are loosened, and as he lifts up on the tops the fork is also raised up with the dirt and bulbs. They are then shaken lightly to loosen the dirt, and then placed in the crate. Care should be taken in placing them in the crate for the bulbs are much easier removed if they are placed evenly. When the crates are full the bulbs are removed by taking a small handful in one hand, and stripping them off with the other hand. Occasionally a bulb is hard to remove, and these are snapped off with the thumb and forefinger. It is not an easy matter to tell just how it is done, and there are many little knacks one will learn in doing it.

Larger bulbs are handled in the same way, and the tops are removed with eight inch French pruning shears. The six inch size is also used. These are the very best shears on the market today, and the eight inch cost about $1.50 each. We have used sheep shears, but these soon get so that it is very hard work to cut the tops with them. The tops are cut close to the bulb at digging, and if a bulb is matured I cannot see what benefit it is to the bulbs to leave it on.

We dig the bulblet grown stock first, and then the smaller stock of the bulbs, and then the earlier varieties of the larger bulbs. By doing this way we can generally dig continually from the time we start until they are finished.

When the entire amount of a variety is dug they are run over a larger meshed screen and the bulblets separated from the bulbs. The bulblets are then placed in nail kegs, boxes or barrels according to the amount. In early winter moist sand is worked all among the bulblets so that they will not become dry during the winter. If they should become dry they should be soaked two or three days before planting. We do not separate the sand from the bulblets when we plant them, but where there is considerable sand in the soil it would probably be best to do so.

One grower who was here last summer said that he did not separate the bulblets from the bulbs until they were cleaned, for it was his idea that they grew better than if separated at once after digging. By the stand of bulblet grown stock we had last season it seems to me that it disapproves his theory.

If you wish to keep your bulbs true it is necessary to be very careful about marking them. We use pieces of thin veneer for marking them as dug, and a marker is put in each end of the crate. It is not merely tossed into the crate, but pushed down at the end between the bulbs and end. If always put in the same place you know just where to look for them. These markers are left in the crate until they are cleaned, and then a tag is tacked on the end of the crate with the name of the variety, grade and number it contains.

In the bulb cellar we have it arranged with racks to hold the crates. They can also be stacked up one above the other if every other one is reversed. When there are only a few of a variety they are put into good quality paper bags as dug and the name of the variety marked on the bag.

Weather conditions so far this spring have been favorable, but according to the law of averages, it will be strange indeed should we not get severe weather, considering the time of the year, to balance up for all the mild weather we have had during the past winter. Gladiolus growers usually get stock in the ground just as early as they can and take chances on its being frozen after it appears above ground.

The Flower Grower

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OUR MOTTO: Special favors to none, and a square deal to all.

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Growers are invited to contribute articles or notes over their own signatures, but the Editor reserves the right to reject anything which in his judgment is not conducive to the general welfare of the business.

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Vol. VI April, 1919 No. 4

"He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers."—ZOROASTER.

Daylight Saving.

The plan for the saving of daylight became effective again in France and in Italy on March 2nd, 1919. In this country, the law was regarded by many persons to be only a war-time measure, and on account of the great opposition of the people of many rural communities to the Daylight Saving Law, it was expected that the act would be repealed. But, because of the failure of congress, before adjournment, to take any action on the bills providing for the repeal of the act, the clocks of the U. S. are destined to be advanced one hour on the last Sunday of March to continue so until the last Sunday in October.

With many people the daylight saving plan was quite popular, as by this scheme of advancing the clocks of the nation, an extra hour for recreation or for amateur gardening was secured, but to the great army of farmers who constitute one of the largest and most important laboring classes in this country, the law proved most distasteful. Instead of being a benefit to the farmers the law seems to have handicapped them in their vital work of increasing food production. With the working day beginning so early the first hour was practically useless on account of dew and dampness, and with the hired help quitting work an hour earlier, the time between 3 and 6 p. m. which might be used to the best advantage during the haying and harvesting season, could not be fully utilized so that by the daylight saving plan the farmer seems to have lost time instead of saving it.

On account of the opposition of farming interests, bills to repeal the measure were introduced and favorably acted upon in the House of Representatives, but the failure of Congress to take final action on the pending bills "kills" the repeal and so, this year, the farmer, whose calling makes it imperative for him to get up before daylight at least five months of the year, will be obliged to continue that schedule throughout the season, getting what comfort he can out of the old precept:

> "Early to bed and early to rise
> Makes a man healthy, wealthy and wise."

BERTHA BERBERT HAMMOND.

Quoting Prices in Advertising.

This subject of quoting prices in advertising has been discussed very thoroughly, not only among flower growers, but as applied to many different lines of business. Some people are constitutionally opposed to the quoting of prices, while others believe in it as a principle. Quoting prices brings direct business from the advertising, and the advertiser who wants to see results as he goes along must necessarily put up an offer which is attractive to readers and quote prices which will draw direct orders. We personally are inclined to favor the quoting of prices for various reasons. The principal reason has already been stated, but the quoting of prices also means that the advertiser is willing to meet competition.

Some growers have objected to the idea of allowing the quoting of prices on wholesale quantities in the columns of THE FLOWER GROWER. The objection is that THE FLOWER GROWER reaches a large number of retail purchasers, but where can we draw the line? Many of the Gladiolus enthusiasts, for instance, really purchase in wholesale quantities and it has always been our contention that the man who purchases in wholesale quantities was entitled to wholesale prices. Of course, if commercial growers want to give each other a 15% or 20% trade discount in addition to wholesale price that is altogether their affair, but why the purchaser in wholesale quantities should be denied a wholesale price we have never been able to understand.

We wish to state at this time that as an unalterable principle advertisers in THE FLOWER GROWER will be allowed to quote prices in their advertising without limitation.

This matter has been quite fully discussed in past issues of THE MODERN GLADIOLUS GROWER and THE FLOWER GROWER but our columns are always open for the expression of views on this subject as well as all others pertaining to the business.

MADISON COOPER.

Discussion of Gladiolus Varieties.

Articles on the above subject by Joe Coleman and George S. Woodruff in the January issue of THE FLOWER GROWER have attracted special attention. We have heard from several different correspondents complimenting and commending same. Discussion of varieties with individual opinions as to their qualities and merit, and indeed their weaknesses, are of great value, especially by people who are not interested in pushing any particular sort.

In this connection we might suggest that oftentimes the enthusiastic amateur, who has not had so much experience as Coleman and Woodruff who are among our most experienced and best posted growers, brings to the subject a clear and fresh viewpoint which enables him to discuss varieties in an extremely analytical and entertaining way. Such an article by T. Dabney Marshall, we are printing in this issue. Let us have more of them.

Mrs. Hammond's daylight saving article has the hearty approval of the editor, and for the reason that he has been turning out this winter at 5:30 or earlier and now just as he gets to a time when his morning "chores" can be done by daylight, government regulation puts him back an hour into darkness. Then the farmers' argument about loss of time in the morning while the dew is on is especially pertinent during the haying and harvesting.

If among our readers there are those who are benefited by the daylight saving arrangement, we would be glad to hear from them.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

Reflowering America — Hints for Commercial Gladiolus Growers.

Everywhere we hear people talking of reconstruction, and we quickly grasp its meaning when reference is made to the devasted areas of the war zones.

Reconstruction—the renewing or rebuilding of parts torn away or destroyed—is an old story, yet always new, of Nature's method of covering her scars and healing her wounds. Even now the wild rose is budding on the graves in France.

Perhaps never has there been so much sorrow, so many heartbreaks, in the same period of time as in the recent past, yet those of us who have felt its keenest edge, who have suffered the loneliness, and known the emptiness of life when loved ones left us, realize that we must throw off the wave of despondency and take a fresh start. We must readjust ourselves to the new conditions that have come to us.

A portion of the garden of Mr. C. A. Kirtland of St. Paul, Minn. The parties in the garden are Mrs. Kirtland and Mr. W. F. Christman, Secretary of The N. W. Peony and Iris Society.

The pleasing occupation of flower gardening is very soothing and restful to tired nerves and in looking about we are impressed by the fact that there are now many millions less flowers grown than before the war. Gladly were they given up when came the call to help in food supply, and now just as gladly and happily should they be restored. There is a great field of cheering work before us in the reflowering of America. The little kitchen garden has now become a factor in homes where vegetables had not before been thought of, and it is equally important that the flower garden should have as prominent a place. Vegetables are of material value but flowers have a refining spiritual influence impossible to estimate. It is surprising how quickly room may be found for flowers when once one has become interested. Planting time is now at hand and every flower lover should feel it an obligation to plant and grow more flowers than ever before, and to aid and try to interest his neighbor in the mysteries of their culture to the best of his ability.

The illustration shows a back yard made beautiful by plantings of Gladioli and Cannas. There are also beds of Peonies and annuals not shown in the photo. At the sides are various shrubs, which together with those grown by the neighbor, on his side of the invisible wire fence, form an attractive shrubbery row between the two lots. And all of those plantings are on ground that on most city lots is left idle. It is the garden of a man of affairs, his sanctum, where he relaxes from the cares of business in a most delightful recreation. So great is his enthusiasm that he cannot come home fast enough, nor jump into those garden clothes quickly enough, and—yes, it does require some little time, when the edge of evening comes, to don mosquito proof apparel, for mosquitoes there have spikes that almost equal those of the Gladiolus—but thus equipped he works and visits with his pets until the gloaming purples into black. Such is the garden and the work of a flower enthusiast. A work that is contagious for many others have, through him, become interested. A Business Men's Garden Club is in a flourishing condition and I feel sure will do its part in brightening America with flowers.

HINTS FOR COMMERCIAL GLADIOLUS GROWERS.

Black bulblets should be the first to be planted, and as early as possible while the soil is full of moisture, for the hard shells are slow to soften even when well stored, and if they have been allowed to become somewhat dry in storage they might lie in the ground a long time before starting into growth. The No. 6 size or white skinned bulblets, as they are often spoken of, are the smaller sizes that were grown from the black hardshell bulblets the previous season. They will start into growth quickly and may be planted later giving the opportunity to make an early planting of large bulbs of the early flowering varieties for cutting.

As the storage trays are emptied they should be thoroughly cleaned to free them from unnoticed bulblets that may have become lodged in between the strips of lath that form the bottom. Brush well, being careful that the corners are well swept, then give them a few smart raps across the lath with a stick. It's good luck to "knock on wood," anyway, and it surely is in this case if you happen to find even one truant bulblet, for bad mixtures may sometimes be traced to careless cleaning of storage trays. Stack the trays in a dry, clean place in readiness for quick use when again needed.

Mrs. A. H. Austin.

C. S. Harrison.

The death of C. S. Harrison at the age of 87 years occurred at his home in York, Nebraska, on February 23, 1919. Mr. Harrison was well known to a wide circle of acquaintances in horticultural and floricultural work, and his writings in this line are well and favorably known.

Mr. Harrison was born in Otsego county, N. Y., but removed at an early age to Chicago. He studied at Beloit College and commenced work as a home missionary in Minnesota in 1857. He was for 45 years engaged in active ministerial work in addition to assisting in colonization work.

It was at about the age of 40 years that Mr. Harrison first became interested in horticulture and when at the age of 66 his health failed and he was obliged to retire from active ministerial work, he naturally turned his attention to the nursery business and gave especial attention to the Iris, Peony, etc. His writings include manuals on the Peony, the Phlox, the Iris and Evergreens. His published books are "The Gold Mine in the Front Yard," "The Undiscovered Country at Home," "Adorning the Beulah Land of the Hither Shore" and "The Gospel of Beauty and Intelligence in Trees." The latter he considered his most important work.

As an example of extreme activity in old age, Mr. Harrison will long be remembered. His love for nature and his interest in all sorts of activities were well known and few men can claim as great accomplishments during what are commonly called the "declining years" of life.

Additional prize offers besides those published in the March issue have been made for the next A. G. S. Show and will be published in the May issue.

WAYSIDE RAMBLINGS

AN AMATEUR'S EXPERIENCE WITH NEW GLADIOLI.

To the Editor:—

Ever since I read an account of the Gladiolus Show in Buffalo, and your astounding achievements, it has been my intention to write to you.

Now, that you took a first prize with *Pink Perfection*, I hope you will be good and take back the strictures you passed upon this lovely lady. What if she does some times (even many times) throw crooked stems? When she does bloom rightly, is she not perfection? Do you want color? Hers is the loveliest pink found this side of sunset clouds. Do you want grace and size of flowers? None excel her in this respect. Do you want numbers of bloom all open at one time? Well, she is certainly there with the goods. What if Cleopatra was some times wayward, was she not Cleopatra still, with kisses each worth an empire?

For the first time in my life I was able this year to make a try out on the Gladiolus almost to my heart's content. Not quite, however, for who ever did plant all the flowers he wanted to? I veritably believe that if we had the whole earth for our garden, we would sigh for an annex garden in the moon or in the rich, warm valleys of Venus or some other planet.

Like all other ventures with flowers this try out was a blend of joys and disappointments. My soil is horrible, a stiff, putty-like clay that in spite of liberal applications of fertilizers and sand will not become ideal. Hence the tender and more delicate varieties did not do well. Others disappointed. In the reds, *Red Amarillas, Rajah* and *Red Emperor* did not come up and *Liebesfeuer* bloomed while I was away. *Faust, Velvet King, Mrs. Fryer, Scarlet Velvet* and *Crackerjack* all flourished and bloomed well, but not one of them, in my opinion, is a first class flower. They are either inferior in color or number of blooms open at one time or something else. The only first class red I have grown is *War*. With me it is perfection. Tall, stately, vigorous, glowing and glorious in color; with large sized and many blooms it stands out in the garden a vivid object of compelling beauty. Would that I could find a scarlet like it; would that *Princeps*, that perfection in single blooms, would equal it in the number of blooms open at one time; then, indeed, would we have a Gladiolus worth while. Why, O why, does not some flower magician take hold of this Gladiolus and make it get a hump on itself?

In the pinks nearly every one was all that could be desired. No matter how fine the newer and, to me, more attractive varieties were, visitors to the garden invariably raved over *Halley, America, Mrs. Francis King* and *Panama*. *Myrtle*, in spite of clay soil flourished and were delicately and daintily beautiful. I planted them in a row about twenty-five feet long and mingled with them *Europa*. These two kinds bloomed about the same time and I wish you could have seen the effect; it could not be surpassed. *Eveyln Kirtland* and *Gretchen Zang* were all that Mrs. Austin and Mr. Joe Coleman claimed for them and it would be impossible to have too many of them.

In the whites, I tried *Peace, White Excelsior, Candidum, Augusta, Lily Lehmann* and *Chicago White*. *Peace, White Excelsior, Candidum* and *Chicago White* have gone for me into the trash pile. The muddy, dirty purplish throats and occasional suffusion all over the petals of this same dingy hue ruin them. *Europa* was perfection, almost snow white, large waxen individual blooms and many open at one time. My clay seemed to suit it and it was in every way a delight. *Lily Lehmann* I have long known and I almost agree with Mr. B. Hammond Tracy that it is the best white. When I place it in a vase with *Baron Hulot* the combination is so effective I entirely agree with him. But when I look at a vase of *Europa* and *Myrtle* I think *Europa* is the premier white. So there you are. It is hard to decide, is it not?

It is no use to speak of *Mrs. Pendleton*. Is not her fame world wide and deserved? One magnificent Gladiolus that has been on the market for a long time surprises me by not having attracted more attention. This is Mr. Kundred's *Pride of Goshen*. I find this one of the very finest Gladioli on the market. Its color, size and number of blooms open are all satisfactory.

I also tried some of Mr. Kunderd's more expensive corms. They were magnificent. I do believe that *Mrs. Dr. Norton* is the loveliest flower in the Gladiolus world. *Purple Glory* is a glory indeed and *Mona Lisa* holds *Mrs. Dr. Norton* a close second. But my! who can afford to plant many of these when he has to pay a dollar and a half and two dollars a corm? They are lovely I admit, but they are not that much lovelier than others that sell for that much per fifty or a hundred.

I tried a dozen *Primulinus Hybrids* from Kunderd, from Betscher, from Gage and from John Lewis Childs. All were excellent, but I believe if there was any superiority it was with those of the Gage dozen. Their colors were more dainty. One of these was a pure white with a *Mrs. Pendleton* throat. I hope I can grow it in quantities as it deserves to be put upon the market.

Another very lovely Gladiolus was *Madam Mounet Sully*. I see it was among the prize winners. The article you published from Holland says it is a weak grower. How have you found it? It would be a pity if the Holland writer were correct, for it is too lovely to disappear from the market. In the purples, I find that *Baron Hulot* if planted early is fine, but if planted late is poor, as it cannot endure the heat. *Empress of India* does well here and does not compare unfavorably with even such top-notchers as *Purple Glory*. *Herada*, too, is another good thing. It stands the heat well and is, I believe, destined to become as much of a standby as *Mrs. Francis King* or *America*.

I also had two hundred of Mr. Kunderd's mixtures. They were astonishing. Each and every one of them was worth a place in any garden. Many of them surpassed his high priced named varieties. One of them was somewhat similar to, but I believe, even more beautiful than the famous *Mrs. Dr. Norton*. Hats off to Kunderd, for no hybridizer has produced more lovely Gladioli than he. Long may he live and grow Gladioli at Goshen, even if others do have to come sometimes and pick out his loveliest and bring them before a pleased public.

T. Dabney Marshall.

IRIS COMMENTS AND SUGGESTIONS.

With the arrival of the January issue I determined to write you of the satisfactory appearance of your advertising columns, the February issue merely confirmed the impression, and the recently arrived March number demands a note as well. In all three the ads have an unusually clean-cut, notice-compelling presentation.

The constant reference to the Iris in your pages is, of course, of great interest to us as growers of Iris, but Mr. Rollin's articles, to me, seem to discourage the amateur with difficulties of seed raising, that we have not met with. Inasmuch as it is our practice to transplant the seedlings when about an inch high, the soil of the seed bed need not be so thoroughly enriched; we give only ordinary garden preparation, mixing well-decayed leaf-mould, applying lime, and raking smoothly. We also use a shaded site, so that all in all, it is not a very good place for rank growing weeds. In the past we have planted the seeds in recorded squares as soon as ripe and dry but owing to the germination of many this last fall, we consider that late October planting may prove more successful. With us fully a third, or often two-thirds of the plants, bloom the year after germination; that is, two years from the cross. We have not assembled our records of germination but of the flowered seedlings (some thousands) 20% or over have proved worthy of further trial, about 50% as good as many of the named varieties, and really less than the remaining 30% distinctly unpleasing. When you realize that hardly any two are alike, you can see the fascination of raising Iris seedlings, but it must be remembered that these percentages are largely based on the results of selective crossings. I should not venture to say that good results would come from carelessness in any part of the work but it will take but little care to raise a lot of interest. Mr. Rollins speaks from long experience, but to the beginner the expression of his experience may seem unnecessarily discouraging. In reality they are as easy to raise as parsnips—a carefully selected example you see, for parsnips often show poor germination.

Your reprinting from *The Garden* of "One Way for the Amateur to be Useful," is particularly pertinent and deserves wide attention.

The note on Iris *lurida* interested me, as Mrs. Wilder notes an experience that is, I think, peculiar to her plant and situation rather than to the variety; at least with us *lurida* has never given a second bloom and though we have used it as a parent we do not consider it of value as such, the progeny being small-flowered with a distinct curling under the falls. Under unusually rich soil or exceedingly favorable weather conditions we have had late blooms (though not effective in quantity) on *John Foster, Lorelei, Mrs. Alan Gray* and quite frequently among the *pumila hybrids;* we should judge that either *John Foster* or *Mrs. Alan Gray* should prove better and more promising parents than *lurida.* We grow *lurida* and it may also be obtained from, or is listed by Farr, The Dean Iris Gardens, and The Rainbow Gardens.

I am afraid that my notes have grown too long but Iris is always a prolonged subject to an enthusiast. I again express my appreciation of THE FLOWER GROWER and its presentation.

ROBERT S. STURTEVANT.

GLADIOLI IN A DROUGHT.

In May heavy rains packed the mulatto soil solid and from June 1st to August 19th, hardly any rain fell; temperature ranging from 90 to 102 in the shade. Aug. 19th, first shower fell, and abundant rain followed up to Oct. 1st, saving the bulbs of those that kept alive over the dry season. The first one to go down was *Baron Joseph Hulot.* The French baron could not stand the heat of Southern Illinois. He was closely followed by the Holland beauties, *Pink Beauty* and *Pink Progression.* Planting stock, midseason and late planting, all suffered alike; 90% perished of these three kinds. The American creations, *Augusta* and *Maude* fared no better. Planting stock of *Alice Carey, Mrs. Francis King, Velvet King, Lucretia* and *Mrs. Frank Pendleton,* 60% loss. *America, Panama, Willy Wigman, Bertrex, President Taft, Schwaben, Mary Fennell, Halley* and *Hohenstaufen,* stood the test well, only 10% loss. *Hohenzollern* came out of the fight with only 2% loss. All planting stock of above varieties showed only a few short flower spikes. Planting size, *Prince of Wales,* stood the test best of all, only 2% of the bulbs missing and nearly every one had a strong spike of immense large flowers but the *Prince* got sunstruck and sent his spikes to all points of the compass.

June 1st, the greatest part of the large bulbs were planted in loose, dry soil. *Golden King, Rouge Torch* and *Prest. Taft* lead the list, producing large flower spikes and bulbs. *America, Panama, Halley, Alice Carey* and *Willy Wigman* all withstood the drought well, producing fine large bulbs after rain came, but had no flowers. *Velvet King* had a good many short spikes, at the expense of the bulbs, and *Mrs. Francis King* also had a good many flower spikes, and produced fine large bulbs.

Bulblets with the exception of *Willy Wigman* were a total loss. One lesson I learned from this year's experience, which kinds are the strongest and most vigorous to endure and survive one of the most unfavorable seasons on record, a pointer for the future, and all kinds that showed weakness will be dropped.

HENRY C. ECKERT.

ANOTHER DELIGHTFUL GLAD GARDEN.

The charming article in the January issue of THE FLOWER GROWER by Rose Marsh reminded me of my own varieties which bloomed for me in late September. My own bulbs (800 or more) were put in the flower garden, but a late, hot, dry season and insufficient cultivation were the causes of the poorest crop of blooms it was ever my lot to mourn over. When late in June an express package of 140 bulbs, with sprouts six inches high, came to me unexpectedly from a woman exchanger who lives near Cowee, Berlin, from whom she obtained them, it was by no means altogether a joyful surprise, as everything was full, even the house with boarders and company. My husband, as he always does, came to my help. "Give them here," he said, "I'll fix them." So he planted them in the bean patch, one-half mile from the house. The beans were a failure, owing to an early September frost, but the Glads did finely. They were cultivated once and weeded out once in August. That was all. Every bulb bloomed and they were lovely. Of course, I did not know the varieties but they were just as pretty. I left them in the ground until late in November and harvested a crop of huge bulbs which I ripened and dried off under the kitchen table, which proves that no one however busy need be without Gladiolus blooms for three months in succession. The last ones bloomed in the middle of October. They are well named Glads.

MRS. E. B. MURRAY.

SOME VEGETABLE HINTS.

The tough, leathery, outside leaves of head lettuce make a "greens" unsurpassed in quality and delicacy.

Salsify is a plant not fully appreciated, every part of it being available. The roots, sliced, stewed, and creamed or made into soup with milk, are both nourishing and appetizing. The blanched lower ends of the leaves make a dainty green salad, and the remaining part of the leaves are fine to stew as greens.

The bitter outside leaves of endive are a choice greens, similar in flavor to dandelion, but much milder, and the roots of the plant are a good addition.

Wild lettuce is another greens similar in flavor to dandelion and much milder, and it comes very early in the spring.

For all these greens, cream or butter, or both, make desirable dressings.

Turnips badly wilted from long storage still are much better than evaporated turnip, if tender at gathering time. Slice them into cold water and let them stand several hours. Then cook slowly.

B. C. AUTEN.

ABOUT DAHLIAS.

In the January issue of THE FLOWER GROWER a reader states that he finds it impossible to dig and handle Dahlias without breaking or twisting the necks of tubers to some extent. My experience has been that to break or twist the neck of a tuber is the exception not the rule and I have grown, dug and stored successfully hundreds of clumps of Dahlias.

I do not dig Dahlia clumps *immediately* after the tops have been frost-killed. (In my article in the October FLOWER GROWER it should have read "frost-killed" instead of "first killed" as it was printed.) I leave the roots in the ground to ripen until the ground threatens to freeze hard. Then dig them, allow soil on them to dry, cut off tops and store. I believe that storing tubers with the stalks down will, in a measure, prevent rotting of tubers as any surplus juices in the stalks will run out. I have been experimenting along this line, but when I wrote the "Bulb" article published in the October issue of THE FLOWER GROWER was not ready to report anything definite on this point.

To be certain that tubers will grow, Dahlia clumps should *not* be divided until the sprouts appear in the spring. Then the dividing can be done intelligently and with the assurance that the tubers planted are likely to produce plants.

MRS. BERTHA BERBERT-HAMMOND.

"WEB-FOOTED" OR "CLUB-FOOTED" GLADIOLUS BULBS.

A very few of my *Homestead Favorites* and a heavy proportion of my *Chicago Whites* when blooming had what we called "web-footed" buds. They were fastened together and were often bent to right or left of spike ruining them for sale. Can you tell me the cause of it? I used liquid manure quite heavily on these two varieties just before buds could be seen starting and thought that the special forcing at budding time might have caused this irregularity.

W. THURSTON GIBBS.

The editor has adopted the name "club-footed" for the peculiar spikes referred to by Mr. Gibbs, and he has thought that it was a peculiarity of certain varieties rather than the result of special causes. Can anyone throw further light on this subject?

Support to the premium list of the American Gladiolus Society for the next annual show in the shape of liberal premiums for exhibitors is a boost to the Gladiolus interests of the world at large. All growers should do something for this prize list.

Northwestern Peony and Iris Society.

At a special meeting of the Northwestern Peony & Iris Society held at Minneapolis, Minn., Feb. 20, 1919, the following officers were elected for the ensuing year:

President—C. J. Traxler, Minneapolis, Minn.
First Vice-President—H. J. Bartholmey, Chicago, Ill.
Second Vice-President—J. E. Stryker, St. Paul, Minn.
Secretary and Treasurer—W. F. Christman, Minneapolis, Minn.
Ass't Secretary—T. A. Kenning, Minneapolis, Minn.

Directors.

F. W. Bell, Hopkins, Minn.
D. A. Humphrey, Minneapolis, Minn.
A. M. Brand, Faribault, Minn.
D. W. C. Ruff, Bald Eagle, Minn.
Mrs. H. B. Tillotson, Minneapolis, Minn.
C. J. Traxler, Minneapolis, Minn.
H. J. Bartholmey, Chicago, Ill.
J. E. Stryker, St. Paul, Minn.
W. F. Christman, Minneapolis, Minn.
T. A. Kenning, Minneapolis, Minn.

Various matters of interest to the society were taken up and discussed and plans formulated to make this season's exhibit a successful one. At a later date a delegate or delegates will be appointed to attend the American Peony Society's exhibit which will be held in Detroit, Mich., this year.

The matter of a Peony and Iris garden or collection of these flowers was referred to a committee who will confer with Prof. Cady of the Minnesota Agricultural College, as to the advisability of establishing this garden or collection at the University Farm School where they will be easily accessible. We are assured that ample space can be provided and sufficient cultural attention provided to make this venture a pronounced success. We feel that our members will gladly contribute varieties in sufficient quantity to insure a large collection of both Iris and Peonies. These varieties may either be loaned or donated to the society for the purpose of having established this trial garden, which it is hoped will be representative of the very best sorts in cultivation at the present time. You will hear more along this line as soon as this committee has an opportunity for further conference.

From the present outlook the Government will prohibit, among other things, the importation of Peonies and Iris. This will mean that we will be deprived of any new varieties that may be originated outside of America after June 1st of this year. The fine productions of Dessert, Lemoine, Kelway and many other European growers will not be available unless this order is rescinded and it has been suggested that the matter be taken up with your Congressman in an effort to have this order modified and made less drastic. The danger of importing plants infected with disease has prompted this measure to be taken although it is permissible to import Lilies, Crocus, Tulips, Narcissus, Lily-of-the-Valley, Hyacinths, seedling Wild Roses and fruit tree stocks, and, in our opinion, infection could be carried on these plants as easily as on Peony or Iris roots. A vigorous protest is being put forth by importers who will be practically forced out of business if the measure goes through, as it now stands.

W. F. Christman, Sec'y.

Cultivating Wild Flowers.

[*Continued from page 31.*]

or seeds, often sporting pale yellow or red-streaked kinds.

Wild Asters are legion, of all heights and in all soils. Under cultivation they furnish a mass of flowers when there is nothing else except it be Chrysanthemums to furnish a mass. Florally they outdo the 'mums, if the tops are pinched out the first of June and the last.

There are good vines among the wild flowers. Woodbine has fine foliage and fruits in fall, and the poison Ivy will never be brought home as Woodbine if one remembers that Woodbine has five fingers just as one's hand. Wild Clematis is as fine as the cultivated except that it has no fragrance. Balsam Apple, sometimes called Wild Cucumber, is a pretty, rapid-growing vine. Apios Tuberosa, listed by many seedsmen as a "wistaria," is a fine vine. Bitter Sweet, Celastrus Scandens, grows luxuriously but seldom perfects its berries under cultivation. Of the Wild Morning Glories there are two. The common pink and a fugitive white. The white will grow fifteen feet on trees. Solanum Dulcamara, common Nightshade, is a vine called poisonous but its poisonous properties have not been proved. It is reputed to cause blindness, and one can be careful in handling it. It has purple flowers and brilliant red berries which contrast beautifully with Clethra when planted among those shrubs.

Among the shrubs Viburnums offer a good variety. They are called Dogwoods. They have amber or red bark on the young growth, and some of them have fine flowers. Panicled Dogwood blooms for Memorial Day. Country folks call it Boxwood. Elder blooms in July, has fragrant flowers, and purple fruits following. Mountain Laurel and American Rhododendron are fine shrubs, but must have protection from biting winter winds. The pink wild Azalea is lovely, and this blooms for Memorial Day. The white Azalea blooms in July and is very fragrant. Shadbush and Chokeberry, a Pyrus, Spreading Dogbane, Andromeda, the White Alder which has bright scarlet berries in early winter, Clethra and the pink and the white wild Spireas are very good shrubs, also.

If one likes to exchange plants or seeds with flower lovers in other states many kinds may be gotten that way. But some states have inspection laws, and from those seeds should be asked for unless there is an authorized inspector to be called upon. In exchanging, put the plants to be sent out in water to cover the roots and leave over night. When ready to pack squeeze out surplus water, roll roots in damp sphagnum and wrap whole plant in waxed paper with name tagged in pencil. Ink blurs. Pack closely in box lined with waxed paper, fill with crushed tissue paper to prevent shaking about, wrap box in waxed paper and tie securely. Mark the outer wrapper "plants" and they will be hustled on. When exchanging plants always send specific instructions as to packing, for many will pack carelessly if you do not. I have sent to Oregon blooming plants of the Cypripedium Acaule that reached there as fresh as when they started on their journey. Violets of all kinds, Trilliums, Ferns and Bloodroot are splendid under walls or in somewhat shaded places.

Before attempting to collect wild flowers it is best to get a reliable book on the subject and study it. Some wildings are classed as pernicious weeds. If one does not care to buy a book, they are to be found in almost all libraries. The flowers mentioned here grow mostly in the latitude of the New England states, but members of those native to warmer sections are hardy if covered well with leaves. For ten years I have experimented with wildings, and that is why and how I know they can be successfully transplanted and grown in gardens. I do not care for a garden that is all floral aristocracy.

The Glad Philosopher's Musings.

It is in the springtime more than at any other season that nature, like a conjuror, parades before our wondering eyes her passing show of mysterious phenomena. Trick follows trick in rapid succession—the swelling of the buds; the rising of the sap; the return of the migratory birds; the bursting of the chrysalid; the unfolding of the flower—all these quickly pass before our vision and mystify us in the passing.

Someday scientists will have found the key that unlocks many of nature's baffling mysteries, and when the unknown is revealed and the why is understood, we'll marvel at the simplicity of the processes, and feel chagrined because of the slowness of our mental development.

Of course there are some mysteries that never can be understood by mortal man; for his finite mind is not capable of fully comprehending the complexities of such subjects as time, or eternity, or space; abstract things which in their boundlessness have neither beginning nor end. And it is best that there are always mysteries just a little beyond our mental grasp, for as John Burroughs writes, "As soon as a thing is brought within our knowledge and the region of our experience, it seems to lose caste and be cheapened."

Nature and man—What a partnership! What marvelous strides forward when they toil harmoniously together; but let either work alone and progress stops at once. Man takes a plant from nature's garden and improves it by scientific breeding. As long as he follows up his labors or bestows attention, it responds, and its evolution seems to take on amazing bounds. But let him neglect this high product of the partnership and hand it back to nature, she does not have the power to hold the improvement, and there is a quick reversion to the former type. It is reasonable, however, to suppose that the reversion has stopped a little short of its former position, and that every such experience is causative to the sure, if necessarily slow, advancement in the onward march of evolution.

Man can improve the Rose and the Lily, that nature, alone and unaided, created and evolved; but he cannot create a speck of the protoplasm from which even the lowest type of moss or lichen originated. So in this agreeable partnership of Nature and Man, man must ever be content to remain the junior partner.

THE GLAD PHILOSOPHER.

William J. Stewart.

William J. Stewart, founder and editor of *Horticulture*, published at Boston, Mass., died on Sunday, February 23rd, at the age of 70 years.

Mr. Stewart was born in Cambridge, Mass., and his entire life work was devoted to botanical and horticultural pursuits. At his beautiful home at Winchester, Mass., he had a fine collection of rare and beautiful trees, shrubs and flowers which he was constantly enlarging with novelties contributed by his many friends.

Horticulture, to which Mr. Stewart gave his life work since it was founded in 1904 gave him the opportunity for expression through the printed page and he appealed to a wide circle of friends and acquaintances.

Mr. Stewart was secretary and president of the Society of American Florists and his acquaintance with the various horticultural bodies throughout the East and West was extensive. He was a forceful and extremely lucid writer and the efforts for the good of the trade which he was so free in giving will be greatly missed.

We hear much complaint this year as to quality of stock received from some of the larger growers. This, we presume, is owing to inadequate and unskilled help at digging time, but partially doubtless owing to inferior culture, inadequate fertilizing and possibly to lack of attention to details.

Photographing Flowers Out of Doors.

Almost any camera can be used for making photos of flowers. *First* study the instruction book which comes with the camera until you *know* the camera; next remember that for detail a tripod or some rigid support for the camera is an absolute necessity, as you cannot hold a camera still for a time exposure, and by a "time" exposure is meant an exposure where the shutter is open for one-tenth of a second or more.

If a camera without a focusing glass is used, then place the camera where you can see in the view-finder just what you wish to see in the photo, measure the distance from the lens to the part of the flower or plant which you wish to be the most perfect, and set the distance indicator on the camera at that point.

Now, time and patience are the most important factors to success, as it will be necessary to wait till the wind is not moving that part of the subject which you most desire to be perfect; with the shutter set, preferably on "B" or bulb, you wait for the proper moment.

If the subject is a single flower, or several flowers that are about the same distance from the lens, then a rather large opening or stop can be used, say eight (or F11), but if there are a number of flowers at different distances from the lens, then a smaller stop must be used, say thirty-two (or F22) and sometimes even smaller. Speaking of "stops" brings up the subject of time, or length of exposure. A person will save time and money in the long run to make at least three exposures; first, by setting the camera with stop eight, make an exposure with the shutter set at one-half second; next, with the shutter at one second; and third, with the shutter set at two seconds. In order to know the plates apart when developed, put a small paper number "two" where it will show in exposure No. 2, and a "three" in No. 3, and by noting the time of day, and selecting the one which makes the best print, you will have a good guide for future work.

If you have read the instructions you know that as you turn in each smaller "stop" you double the time. If you are working for fine detail over the plate, then you must use as small a "stop" as the wind will permit of, and you will find that the only difference between a photo made with No. 8 at one-half second, another with No. 16 at one second, or another with No. 32 at two seconds, will be the amount of fine detail, because, as said before, each smaller "stop" needs twice as much time as the next larger one.

Most films nowadays have some color sensitiveness, but not so with plates, as the cheaper plates as a rule are not color sensitive, so it is absolutely necessary to use "orthochromatic" or "isochromatic" plates and sometimes a "color screen" on the lens, and the ordinary "screen" will make the exposure three times as long as it would be without it. The color screen helps to keep the blues from showing too white in the photo, and the yellows from showing too black, and also has a tendency to keep the greens from coming too black as well. When you have gone far enough to understand what the films and plates will do, then you can improve your work sometimes by the use of "polychromatic" plates, and red and blue and green screens.—C. J. HIBBARD, Minneapolis, (in *Minnesota Horticulturist.*)

Gardens of S. A. Stevens, Great Diamond Island, Portland, Maine. There are about 300 varieties of Dahlias and about 5000 Gladioli in the garden, all of them choice varieties. A more artistic setting for a garden could hardly be chosen.

Removing Mulch.

Do not be in too great a hurry about removing the mulch from perennials, pansies, bulbs and other outdoor plants. The weather in early April is notoriously treacherous. The morning may be suggestive of the tropics and the afternoon and evening of the arctics. When we are getting stinging night frosts, followed by clear, sunny skies is the time when mulch is really more needed than through the winter, so go slowly about removing it. A good time to take coverings away is on a dark, gloomy day when rain threatens. A good soaking from the skies right after the covering is removed will do them lots of good and help to settle the soil about any plants the frost has heaved. Press any into the soil which are badly lifted by the action of the frost.—*Florists' Review.*

Can anyone give us information about the use of charcoal as a purifier or fertilizer in the growing of any kind of flowers? How is it used, how does it benefit and is it expensive?

THE ROSE

Roses in Minnesota.

To HAVE a really fine Rose garden one must have at least a thorough working knowledge of the habits and requirements of Roses. Soil, location and varieties, how to plant, prune, etc., are all important.

Do not select a spot near trees or shrubs; have your bed or garden at least as far away as the height of the trees, as the roots spread as far as the branches, taking all the fertility from the ground.

Sun is necessary, but it need not shine on the beds all day. If you have any choice, place your beds where the morning sun is slow to come, as the Roses will then hold the dew and their freshness much longer.

By the way, always pick Roses as early in the morning as you can, while the dew is on them.

The ideal soil is clay loam, a sticky kind of dirt that will let the water through. This soil will grow good Roses but not the best.

Do you want better Roses? Add old cow manure and leaf mold, and mix well at least two weeks before planting, leaving the surface of the bed two inches lower than the ground to hold the rain. If you would have the *very best Roses*, you must work, and this is what you must do: If your soil is not naturally well drained, dig out your bed or trench to a depth of two and a half or three feet. Fill in the first six inches with coarse stone or broken brick and finer stones on top. The next six inches must be well rotted cow manure, on top of the stones, and then the top soil. When the land is well drained, begin with digging a trench two or three feet deep, and then fill in with six inches of manure, and then top soil.

When the soil is loamy add yellow clay (it gives the Roses a deeper color), to make the ground more solid and hold the moisture; also add to this kind of soil old cow manure, leaf mold and a little bone meal; the latter will be in good condition for the roots to absorb in from thirty to sixty days, just when they are in full bloom. Mix all together and pulverize.

Have you only a sandy place? Dig it out and fill the hole with a combination of clay, loam, leaf mold and old cow manure in equal parts. Thoroughly mix and make fine with the rake. Do this, too, when your beds are old.

The soil around Roses should be changed every five or six years. The bushes may be taken up early in the spring and the dirt changed. They really should be dug in the fall and buried, all but the tips. The bed should then be made new and allowed to freeze all winter, in this way killing many of the bugs.

Care should be taken in selecting stock to have the graft not more than three inches from the roots, as this gives less chance for suckers. Suckers have seven leaves on each stem, and the wood is reddish and thorny.

When planting, spread out the roots as much as possible, put the fine dirt over them and press in firmly with the foot. The graft should be about three inches below the surface of the ground.

Hybrid perpetuals should be planted two or three feet apart, according to the space you have. Hybrid teas one and a half or two feet apart. When your bed is all planted, add one-half cup of air-slaked lime to each plant and rake in well. Then prune, leaving the bushes not over two feet high, with about one inch of stem above the last bud. When all is finished, cover the whole surface with about six inches of old cow manure and water well if the ground is not already wet.

Soot, wood ashes, nitrate of soda and a very little muriate of potash, are all good fertilizers for Roses, but it would take lots of space to tell about them. If you do try to use them, do so with discretion.

The most important thing of all is a thorough preparation of the soil. If you do this well in the beginning two-thirds of the work is over.

For a small garden, the best twelve varieties for me have been:

Hybrid Perpetuals—*Mrs. John Lang*, soft pink; *Frau Karl Druski*, large white; *General Jack*, red; *Mad. Gabriel Luizet*, silver pink; *Marshall P. Wilder*, cherry red; *Clio*, white sometimes tinted pink; *Prince Camile De Rohan*, dark velvet red.

Hybrid Teas—*Kilarney*, a fine clear pink; *Mad. Caroline Testout*, salmon pink; *Kaizerine Augusta Victoria*, creamy white; *Grusan Teplitz*, velvety crimson; climbing: *Dorothy Perkins*, clusters of light pink.

Madam Plantier is a hardy white June Rose, very prolific and should be in every garden. There are so many beauties, it is hard to choose.

The *Hybrid Perpetuals* are the most hardy, but do not bloom every month. The *Hybrid Teas* do, but need more care as to covering for the winter.

The *Cochet* roses are all teas, but are worth having even if one has to replace them every year.

I hate to talk about bugs and things, yet must just a little. The first thing in the spring, before the leaves come out at all, spray the bushes with arsenate of lead one and a half ounces to five gallons of water, and then again when there are a few leaves. If this does not kill all the bugs, try it again when the buds are coming. The arsenate of lead will stick to the leaves all summer and does not discolor them, so you have a permanent poison—but as the leaves grow out, of course, you will have to add more.

Powdered sulphur, dusted on the damp leaves, is good for mildew. Some tobacco solution or soap suds is good to kill aphis.

White hellebore dusted on damp leaves kills many enemies of the Rose, but the rain washes it off.

The green worms and Rose bugs will have to be hand-picked into a pan of kerosene. Very early in the morning you will see most of them at work.

But you will not have all of these troubles. This is just to show you what to do, if you have one or two of them.

Covering for the winter:—I have had the best success, burying Roses in the ground, leaving the tips out. Many people bend them over and cover with leaves or straw, and over this place tar paper or boards. They must be kept dry and have a little ventilation. It is not the cold that kills them but the thawing and freezing. All of the *Rugosa* Roses are hardy and should be in every garden. There are a number of improved varieties that are double.—MRS. H. B. TILLOTSON in *Minnesota Horticulturist.*

Transplanting the German Iris.

We have made many experiments with this Iris as to the time of transplanting, and find that the best time to do this is immediately after the flowers have faded, as then the plants are able to make roots in abundance previous to dry weather setting in. We also find that the plants do far better, and also flower more freely, if care is taken when planting to keep the rhizomes on the surface. Of course, top-dressing can be done, but if the ground is well dug at first there is no need to top-dress at all.—*Gardening Illustrated* (English.)

Join the American Gladiolus Society.

The attention of our readers is again called to the advantages of membership in the American Gladiolus Society. Mr. H. E. Meader, of Dover, N. H., Vice President of the organization, has shown a special interest in increasing the membership, and has not only offered a prize to the person turning in the largest number of new members, but in his advertisement in this issue he makes a special offer of bulbs of Mr. Kunderd's beautiful variety, *Myrtle*, to all new members joining before the next annual meeting in August. A dozen corms of *Myrtle* is a premium worth having. Those who are growing it appreciate *Myrtle*, and those who are not growing it should take advantage of Mr. Meader's offer and join the American Gladiolus Society.

We learn through Mr. Th. deGroot, manager of the American Branch Office of the firm of K. Velthuys, bulb grower and Gladiolus specialist of Hillegom, Holland, that this firm has merged their entire stock of Gladioli with the well known house of P. Vos, Mzn, of Sassenheim, Holland. The importation of Gladioli being prohibited after July 1st, these combined stocks of bulbs will be propagated in this country as the larger part of same has arrived on the New Amsterdam.

Sixty acres of land of high quality for bulb growing have been secured at Mount Clemens, Mich. The new firm will be known as the United Bulb Co. Inc., Maple Park Farm, Mount Clemens, Mich. They will specialize in Gladioli, Peonies and Dahlias. Mr. Vos, who was one of the pioneer travelers in the U. S. from 1890 to 1899, has been growing bulbs and plants for the last thirty years and is well known as a hybridizer of Gladioli. He has brought with him a fine collection of new varieties which he expects to exhibit at the next flower show.

We commend the article on "Cultivating Wild Flowers" beginning on our front cover page, to those who are interested in this subject. This article is written by one who knows the subject and from experience. The bringing of wild flowers into the garden is certainly a fascinating pursuit to real flower lovers.

John B. Humphrey
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MEMORIAL TREES.

[*Written expressly for The Flower Grower.*]

BY BERTHA BERBERT-HAMMOND.

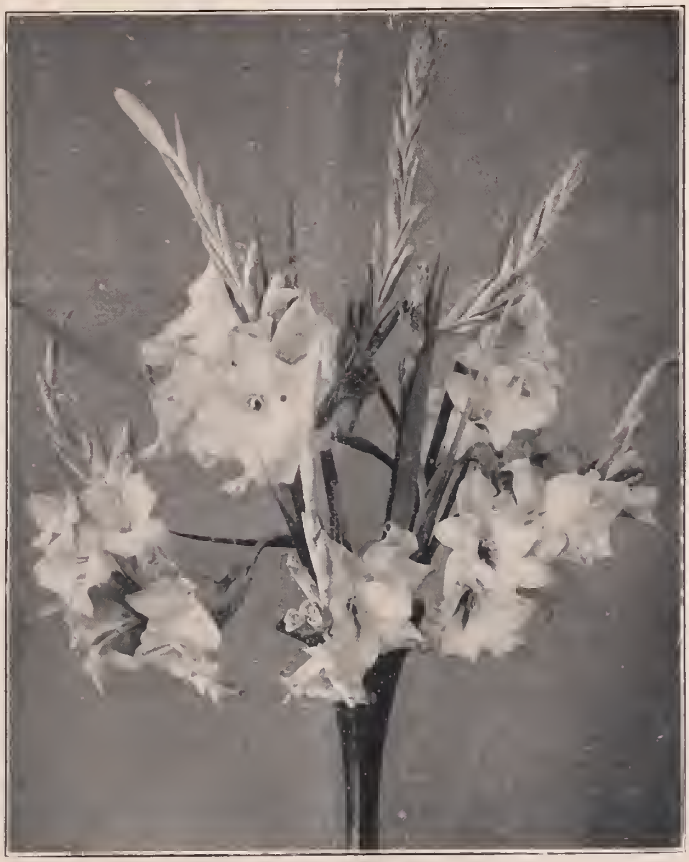
Unusual popular interest has been aroused by the suggestion of the American Forestry Association, that a tree be planted as a memorial for each soldier and sailor who, in the World's War, sacrificed his life in the services of this country. This idea, to provide a living expression of the Nation's homage to its hero dead, is a beautiful and appropriate one, for nothing could more fittingly commemorate the brave deeds that will live forever in the annals of a grateful people. A permanent war memorial could take no better form than the planting in our towns, parks, door-yards or on our highways, hardy, long-lived trees. The longevity of trees is well exemplified by a huge tree, reputed to be over 2000 years' old which is situated on the Island of Kos, off the coast of Asia Minor. Near this famous old tree is a marble seat, from which the Greek doctor, Hippocrates, (born over 400 years before Christ) is supposed to have taught the healing art to his pupils. According to tradition, St. Luke and St. Paul rested beneath the spreading branches of this ancient living monument.

The memorial tree idea seems to have had its origin in Tacony, Penn., where the Episcopal Church of The Holy Innocents, planted on the lawn, four beautiful trees and dedicated them to the memory of the soldier dead of that town, one of the many little towns that

"Bred them clean and straight and strong,
Sent them forth to right the wrong,
Little town their glorious death,
Makes you kin to Nazareth."
—*Hilda Morris.*

The idea is so meritorious that it seems to have gained the instant approval of the American people and many plans for memorial tree planting are taking concrete form in various parts of the United States. This year, Arbor Day is likely to prove a day devoted especially to the planting of trees and the dedication of same to the memory of those youths who gave their lives for their country. In quaint, old New Orleans, the Woman's Club are planning to set beautiful palm trees along the roadways entering that city. The Lincoln Highway Association contemplates planting memorial trees along the 3,300 miles of that international highway. If all these various commendable projects are carried out, if each municipality considering erecting a war memorial will make tree planting part of the memorial program, what a colossal, magnificent and enduring medium for keeping green the memory of

[*Concluded on page 51.*]



GLADIOLUS—*PINK PERFECTION.*

We are indebted to C. R. Hinkle, St. Joseph, Mich., for this beautiful illustration of the variety, *Pink Perfection*. Mr. Hinkle writes that he had this photograph taken to illustrate the beauty of what some people claim is one fault of *Pink Perfection*—crooked spikes, and we quote from Mr. Hinkle's letter as follows:

"Some people say: 'I would like the Gladiolus better if it were not so stiff and straight and formal.' To such I commend *Pink Perfection*, with its gracefully curved spikes, with lines of beauty adaptable to vases of various sizes and shapes in keeping with the number of spikes used. A single spike in an individual vase is 'a thing of beauty' and a dozen in a large receptacle are 'a joy forever.' Flowers usually large, of a wide-opened Lily shape, an exquisite soft yet bright pink, sometimes flushed and feathered darker at tips of petals. A number open at once and many of the buds showing color, looking much like pink rosebuds.

"An elderly gentleman who has grown many beautiful flowers, especially Roses, sat before a large vase of this variety on my porch in rapt admiration for quite a while. Finally he said: 'That is the most beautiful vase of flowers I ever saw, and I have seen many beautiful ones.'"

Outline of Methods Used in Growing Gladioli.

[*Written expressly for The Flower Grower.*]

One of our good friends who has made a notable success in growing fine Gladioli when asked to give an outline of his cultural methods, has sent us information which we believe on account of its conciseness and at the same time very complete way in which the information is given, will prove interesting and helpful not only to new beginners, but as well to those who have had more experience in the business.

For fertilizer I use bone meal and hard wood ashes well mixed together at the rate of 10 lbs. of bone meal and five quarts of ashes and applying this amount to about 100 feet of row, sprinkling over the rows after the corms are covered at planting time. Only made one application for the season.

Bulblets were planted in flat trenches or furrows about 5 in. wide and were sown very thickly nearly covering the ground and then were covered about 3 in. deep.

Planting stock up to ¾ in. in diameter was planted in trenches or furrows about 6 in. wide at the rate of about 50 corms to the foot and covered 4 in. deep. All corms over ¾ in. diameter were planted in double rows spaced about twice the size of the bulb apart in the row and the rows about 6 in. apart in the trench and were covered about 6 in. deep. All stock except bulblets was planted in trenches 3 ft. apart to give room to secure soil for ridging up the rows and sifting soil around the plants, the same as one would ridge up or hill up potatoes. When plants appeared above ground so that the rows could be followed, shallow cultivation was used between the rows to keep a good dust mulch about 2 in. deep. The soil was stirred after every rain and in dry weather at least twice a week until after the blooming season.

For making the double rows a horse and light plow was used to start the trench and an ordinary hand hoe to complete the job and make a flat bottom trench about 6 in. wide for the bulbs.

For bulblets the plow was run more shallow and also a hoe used to prepare the flat trench or furrow.

When planting all stock was looked over carefully and only good plump and perfectly healthy corms were planted.

A horse cultivator was used except in bulblets, and in these a garden rake was employed as the rows were made about 20 in. apart. Presume that a wheel hoe would have proved useful.

Wings were used on the cultivator about three times during the season and run about 2 to 3 in. in depth. At other times no wings were used as this was sufficient to ridge up the plants as above explained. When going through with the wings on cultivator they were set so as not to run too near the plants and an ordinary broom was used to brush the soil in around plants. This does not make a very high ridge. A half worn broom should be used as it is not as flexible as a new one. Bulblets were given level culture and not ridged.

The soil was quite strong but not heavy and is what might be called a medium clay loam and planting was done on a clover sod. This soil worked very easily for a clay soil. Plowing was done in the fall of the year and the furrows cut about 5 inches deep and 12 inches wide, and care was taken that they should overlap each other and not turn flat. This gives a seed bed of 7 to 8 inches of mellow soil.

Plants showing signs of disease during the growing season were pulled out and no bulblets saved from corms that were not perfectly healthy at digging time.

After digging, all stock was given at least five days curing in the sun when possible. Bulblets were stored in moist sand to keep them good and plump.

Any culls or diseased stock were planted experimentally and often made fine healthy new corms, but these were not used to increase the main stocks.

L. B. Colby.

Wild Flowers in the Home Garden.

[*Written expressly for The Flower Grower.*]

When I first came to Iowa, in the 60's, there was an abundance of wild flowers in great variety on the prairie and all around the little town. To the west, immediately beyond the pretty Wapsipinicon River, stretched the rolling Iowa prairie. Eastward, after crossing a tributary creek, came almost immediately the Wapsie Timber, consisting of oak openings, hickory, poplar and some crab apple, wild plum and numerous smaller trees and a great growth of hazel bushes. Beyond this to the east came the prairie again. Nearly all the trees were along the water courses. In the spring the wild crabs and plums, with various thorns, were gay with their pink and white flowers. Sheltered among the trees and hazel brush were anemones, blood root, hepaticas (liverwort) moccasin flowers (cypripediums) in variety, Dogstooth Violet (erythronium) polemonium, ranunculus, shooting stars (dodecatheon) various violets, Dutchman's Breeches (Dicentra) and a lot more which I don't now think of. One gay scarlet bracted flower was called the "Fireman," locally, Bartsia, I believe. On the prairie were Phloxes, Liatris, Lilies, Rudbeckias, Spiderwort, Asclepias and many more.

As the native grass was displaced by the "tame" grasses, and the ravines were pastured and cleared, the wild flowers began to disappear and some are almost extinct. So now, if we wish to save the wild flowers, we must transplant them to wild gardens in our home grounds. I began years ago to make such a little collection and now the spring brings me flowers in something like the following order. First of all come the Hepaticas, closely followed by the Bloodroot. A little later come the Dutchman's Breeches, the yellow Bellwort, Water Leaf, white, blue and yellow wild Violets, and a few Trilliums, purple and white. The Shooting Stars come later and soon I have a great bed of Blue Bells, as they are called here, the Mertensia. I have what is quite rare, a pure white one but it does not spread much. After a while there are two kinds of Solomon's Seal and the False Solomon's Seal (Smolacina recemosa?) A curious thing which I brought from the glens of the Maquoketa. "The Devil's Backbone," is the Wild Ginger, with large, downy heart-shaped leaves and curious flowers down close to the ground. The root smells and tastes like mild ginger. Then there are Columbines, Polemoniums, and the Actea or Baneberry, with large clusters of small white flowers and, later, very handsome dark scarlet berries. This is not nearly all but will suffice to show that much can easily be had in the way of natural garden by a little pains in transplanting from time to time. The number of available wild flowers is really surprising when one comes to count them up Several native ferns are to be had even here in northern Iowa. But this impromptu narrative runs out to a length and I will stop before the editor gets alarmed.

Geo. S. Woodruff.

Mr. Meader's offer of corms of the beautiful Kunderd Gladiolus *Myrtle* to all persons who join the American Gladiolus Society before the next annual meeting is still in force and it is hoped that there will be a liberal response. The cost of membership is but $2.00 per year, new members paying an additional $1 initiation fee. All members are entitled to receive The Flower Grower regularly without extra charge. The editor will be glad to forward application blanks on request.

Tiger Lily.

Some years ago the old-fashioned Tiger Lily fell under the ban of disfavor. Some dabbler in æsthetics declared the color of its flower crude and tawdry, and in their zeal some misguided persons ruthlessly sacrificed fine clumps that it had taken years to produce, replacing them with newer or finer varieties. But the old Tiger Lily had too many good points to remain long an exile, and it is again resuming the place to which its ease of culture, hardiness, stately habit of growth and gorgeous orange-red, black-spotted flowers entitle it. The re-appearance of the old Tiger Lily in gardens from which it was once banished is a glowing, though tardy tribute of appreciation. A glimpse at a fine ten-year-old clump of bloom in my garden, gives one some idea of the gorgeous oriental coloring of "the lilies of the field" referred to in the words "that even Solomon in all his glory was not arrayed like one of these."—Bertha Berbert Hammond in *Park's Floral Magazine.*

Please note the appeal to Gladiolus growers in our editorial column, p. 44.

THE ROSE

Single Roses.

Were anyone to take the pains to look into the subject in a truly catholic spirit it would in all probability be found that there is hardly anything that man recognizes by his senses which has not been or is not now under the capricious, inconstant, and terribly exacting domination of that most powerful of human deities—Dame Fashion. Pointing to a clock on the wall of an imposing building, set in the midst of a domain surrounded by high walling, a visitor once asked an inmate if it was right. "No," came the reply; "No, it wouldn't be in here if it was."

It would not be in the world if Dame Fashion did not rule it. Roses as much as anything else have felt her unseen influence. When was the last Moss Rose seen at a "National" show? And yet the first of the great nurserymen to make a Rose book (Mr. T. Rivers, Jr., in the *Rose Amateur's Guide*, published in 1837) wrote these words of the type: "These Roses always have been, and I hope always will be favorities; for what can be more elegant than the bud of the Moss Rose, with its pure rose-color peeping through that beautiful and unique envelope?" A popular quotation of the forties of the last century shows us what our great-grandmothers thought of them:

"Then," said the Rose with deepest glow,
"On me another grace bestow."
The Angel paused in silent thought,
"What grace is there the flower has not?"—
'Twas but a moment—o'er the Rose
A veil of moss the Angel throws,
And, robed in Nature's simplest weed,
Could there a flower the Rose exceed?"

Or, again, where are those hundreds of hybrids or varieties of the Scotch Rose (Rosa spinosissima) which in remote ages filled the catalogues of dealers?

On the other hand, to think of the long list of hybrid teas, *Mme. Abel Chatenay, Lady Pirrie, Ophelia, General McArthur, Irish Elegance*, and others almost as sand on the sea shore in number is to provoke feelings of intense pleasure and profound thankfulness that we are living under the lucky planet that is godfather to this now omnipresent race. And then again to come to the immediate present with its increasing legions of hybrid singles—the great yellow-centred tribes of attractive simplicity—dare I say as I look at *Pax*, at *Sinica Anemone*, at *Red Letter Day*, at *Irish Elegance*, at *Mrs. C. E. Salmon*, at *American Pillar*, and at *Una* that the art of Dame Nature has been surpassed by that of Brother Man?

Does someone say, "Well, hardly ever?" *Mutatis mutandis.*

"Worth makes the man and want of it the fellow,
The rest is all but leather and prunella."

I freely allow that anyone who thinks otherwise errs in excellent company. So many good men and true gardeners love the more sensuous double forms with a love and devotion that must command the unstinted respect of their fellows who see with other eyes than they. Hear that profound lover and guardian of nature, Forbes Watson, in his notes on "Gardeners' Flowers" in his wonderful book *Flowers and Gardens*. For you, lovers of the double, this: "The beauties of the cultivated rose are more especially of that sensuous, striking kind which can hardly be overlooked, and are apt to veil in their blaze the simpler and less obtrusive though more deeply satisfying charms of the wild Rose." For myself and lovers of the single, this: "The gardener is an artist who interprets Nature by showing her full capabilities, by carrying out any beautiful tendency whatsoever of a plant to its fullest consummation." The steady incoming tide of single Roses is surely bearing to an ever-increasing number an era of satisfaction and simple pleasure such as has never been before. These singles are a goodly company, gathered and formed at sundry times and in divers manners from tea and musk, from briar and wichuriana, from species and from hybrid—a goodly company of growing importance, and for decorative purposes well-nigh supreme.

OUR DEBT TO IRELAND.

Reference to the "Select List of Roses," published by the National Rose Society, or for the matter of that to any trade list which adds to its descriptive letterpress the names of the raisers and the date of introduction, will tell us at a glance that the twentieth century is the age of the single Rose. The Penzance Sweet Briars and a few others belong to the last quarter of the last century, but beginning with *Una*, raised by Paul & Son in 1900 and coming down to *Irish Afterglow*, a new sport from *Irish Fireflame*, and offered by Alexander Dickson & Sons of Belfast for the first time in the spring of the present year, we have a grand selection of attractive and deservedly popular single Roses. This famous Irish firm have made a name for themselves for these new beauties. As far as I am aware each one is distinguished by the adjectival prefix Irish; thus we have *Irish Beauty*, large, white and very fragrant; *Irish Glory*, rosy-crimson; *Irish Elegance*, apricot and crimson; *Irish Fireflame*, orange and scarlet; and *Irish Afterglow*, the last to be introduced, a deep tangerine, vigorous and free. While Messrs. Alexander Dickson & Sons, of Newtownards, co. Down, have done the lion's share of the introducing these Roses of "single blessedness," it should not be forgotten that we owe the exquisite *Isobel* to S. MacGredy & Son, and *Simplicity* to Hugh Dickson, Ltd.

These single Roses, as a rule, make good bush plants, combining handsome foliage with a sufficiency of bloom to make a pleasing picture as isolated specimens or as bedders. For table decoration this Irish "set" is quite at the top of the tree, as a visit at any National Rose Show to the tent for decorative tables and bowls and vases will assuredly demonstrate. Long may Alex. Dickson & Sons continue to give us these beautiful flowers; and how one would welcome a pure yellow, with the coloring of the old Austrian briar, or a copper apricot to match *Louise Catherine Breslau*, or perhaps a bright brilliant ruby after the pretty *Moyesii*.

SCENT AND SWEETNESS.

"I am a child of earth and a son of Adam. If in some future existence I am denied the scent of the Rose and the flavor of the peach there will be something wanting to my felicity." So wrote Oliver Wendell Holmes in *Our Hundred Days in Europe*. The pedantic mind might set its owner to work to find out which scent he meant, for a most limited acquaintance with Roses makes us aware that there are almost as many variations of perfume as there are varieties; and I have even seen it stated that it is within the bounds of possibility for a Rose person to be able to name a large proportion of the inhabitants of his Rosery, when blindfolded, by scent alone.

Without being too precise, Rose scent may be divided into two great groups—the sweet and the spicy or fruity. As examples of the first we have the Cabbage Rose (R. centifolia), *Zéphirine Drouhin, Ulrich Brunner*, and many of the old-fashioned hybrid perpetuals; while the second division includes teas like *Maréchal Niel, Scotch Briars*, and the *Musk*. My purpose in writing the above is partly to direct readers' attention to the question of the great diversity of odors which are exhaled by the flowers of the Rose family. A tentative classification was put forward in the 1917 *Annual* by the Rev. J. H. Pemberton, and it would be well if the recognized central authority the National Society—would in its section labelled "Fragrant Roses" either divide the varieties into groups, or what comes to the same thing, put a distinguishing mark or letter to each one by which to identify its perfume. My other object is to pass on an interesting extract from *Rhodologia* ("A Discourse on Roses and the Odour of Rose," by J. Ch. Sawer, F.L.S.) concerning the seat of the perfume in the flower: "The essential oil is generally found localised in the epidermal cells in the upper surface of the sepals or petals, though it may exist upon both surfaces, especially if the floral organs are completely hidden in the bud. The lower surface generally contains tannin or pigments derived from it. . . . The liberation or disengagement of perfume from the flower only becomes perceptible when the essential oil is sufficiently freed from the intermediate compounds which generated it. Its formation is to some extent in inverse proportion to that of the tannin and coloring matters in the flower." A note is added that these opinions are speculative, but they seem to give a reason why a Rose is sweetest when fully open. Rose water has been an article of commerce from a very remote date, but attar of Roses is a comparatively recent production, and was first discovered about 1574, when it was called "The Oil of Roses of Rubeus." It is a curious fact that although the Rose is an Oriental plant, and that the making of Rose water began to be practised first of all in Persia, yet the discovery of the "attar" was made in the West, and in all probability some forty years before it was known in the East.

ROSES AT KEW AFTER THE LONG DRY SPELL.

I paid a visit to Kew in the early days of July before the long spell of hot, dry weather broke up, and had a good look at the beds of Roses which are to be found on both sides of the walk that skirts the rhododendron semi-circle alongside the Palm house. It had been a trying time, and as there was a great difference in the condition of the different varieties, I made a list of those which looked the best. For the benefit of those who do not know Kew I ought to say that the practice there is to grow each variety by itself. A well filled and flourishing looking bed ought to be neither all flowers nor all foliage, but should have a proper proportion of each. Applying this test the following list gives the names in alphabetical order of those that came nearest this standard: *Augustus Hartmann, Caroline Testout, Commander Jules Gravereaux, Cherry Page, General McArthur, Grace Darling, Hugh Dickson, Lady Ashtown, Lady Pirrie, Ophelia*, and *Ulrich Brunner*. The second best were as follows: *Corallina, Liberty, Mrs. J. Laing*, and *St. Helena*. During this visit I noticed a glorious bit of *American Pillar* growing in a loose, luxuriant way over the arch in the wall that divides the Herbaceous Garden from the main garden. The look of this charming Rose invariably appeals to me; it is so bright and cheery, a result, it would seem, of the clear Rose petals having a paler centre. Then the flowers are not too large, and the petals expand just enough to look well. Altogether *American Pillar* is a Rose to conjure with. It is true that it is only a summer flowerer, but it is so good that it may safely be classified among the feelings or things for which the familiar quotation,

"'Tis better to have loved and lost
Than never to have loved at all."

may be used as a motto. Even perpetualness may be overdone.—Joseph Jacob in *The Queen* (English.)

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> "*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

Circulation of "The Flower Grower" Must be Increased.

Last month we sent circular letters to all subscribers of THE FLOWER GROWER asking their assistance in increasing the number of subscribers to THE FLOWER GROWER. It has been our plan to maintain the subscription price at $1.00 per year, but publishing costs have increased so enormously during the past two years that to meet this increased cost it is necessary that the subscription price be increased or the number of subscribers doubled.

We offer a special clubbing rate to those who send in three or more subscriptions, but if those who cannot find the time to actually solicit subscriptions will send us the names of real flower growing enthusiasts, we will be glad to solicit the subscriptions from this office. There is no reason why the subscription list of THE FLOWER GROWER should not be doubled in the next six months and we confidently expect that it will be. It ought to be tripled.

A large number of very flattering letters come to us commending the good work that THE FLOWER GROWER is doing, and it is our belief that present subscribers will respond to the appeal for assistance.

MADISON COOPER.

Exclusion of Foreign Grown Plants.

A brief editorial on this subject contained in our January number is all that has appeared in THE FLOWER GROWER to combat the so-called Plant Quarantine Act No. 37 of the Federal Horticultural Board. Nevertheless, we feel very strongly on this subject and believe that everything should be done that is possible to prevent Quarantine No. 37 from actually going into effect. We have in hand a very concise and well written article covering this subject prepared by Prof. Donald Reddick, of Cornell University. This comes to hand too late for publication in the present issue, but will appear in the June issue. Prof. Reddick is so well qualified to write on this subject, that those who are protesting Plant Quarantine No. 37 will be glad to have his very masterly presentation of the case.

Gladioli Golden West and Pacha.

We note that the variety *Golden West* is listed by many different growers of Gladioli, and we wonder if in the majority of cases what they list as *Golden West* is not in reality *Pacha*. These two varieties are very similar in coloring, but distinct when the two flowers are compared. Besides, *Golden West* is an upright grower, never making crooked stems whereas *Pacha* seldom makes a straight stem. Perhaps these two statements are rather too positive but they are pretty nearly the truth. Furthermore, *Pacha* makes a large corm, grows strongly and produces plenty of bulblets and increases rapidly, whereas *Golden West* makes few bulblets, has a comparatively small corm and increases very slowly. It is also not at all a strong grower, making a small plant as compared with *Pacha*.

We have had *Golden West* in our collection for several years, securing the stock of it from W. W. Wilmore, Jr., and there can be no doubt about its being true. We also purchased stock called *Golden West* from a western grower which turned out to be *Pacha*. We saw these two varieties closely compared at one of the annual flower shows of the American Gladiolus Society. Our *Golden West* was compared with *Pacha* shown by Arthur Cowee, and Mr. Cowee was positive as to its origin as he secured the foundation stock direct from Europe. It was agreed among the growers who inspected the two samples of bloom that although *Golden West* and *Pacha* were very similar in coloring, yet there was easily a distinction.

L. Merton Gage says that *Golden West* is much superior in form of flower and spike and the golden orange tone is brighter and the color is more beautifully placed and the flowers much firmer in substance.

W. W. Wilmore, Jr. says that the corms of *Golden West* are an orange pink whereas the corms of *Pacha* are more of a white or yellow shade.

An article by Mr. Wilmore in the April, 1915, issue and an article by Mr. Gage in the June, 1915, issue of THE MODERN GLADIOLUS GROWER will prove interesting reading to those who are interested in arriving at the facts in the case and helping to rectify an error. It seems rather unreasonable that an error of this kind should continue and be accepted by the great majority of Gladiolus growers.

MADISON COOPER.

Gladiolus Growers Should Donate to Prize List of A. G. S.

Considering the prosperous condition of the Gladiolus business in this country growers have not shown as liberal and public-spirited a disposition in donating prizes for the next show of the American Gladiolus Society as they should have shown. We urge more attention to this matter. The prize list for the next show of the American Gladiolus Society should be the largest and most liberal that it has ever had. Write the secretary, Prof. A. C. Beal, Ithaca, N. Y., for suggestions and as to what classes are still not properly provided for in the prize list.

"Smilax," in our Wayside Rambling Department this month, calls attention to blue varieties and offers suggestion for a prize class of red, white and blue. It is a good one, but the number of spikes might be reduced to nine different varieties, three red, three white and three blue. Who will offer a prize for this display for the next American Gladiolus Society show?

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

Peonies.

As I walked along on the soft, grassy turf dotted with golden faces of dandelions, upturned, as if in joyous thankfulness of being, I caught myself humming an old song but unable to recall the name. I think I was somewhat chagrined at my failure because it indicated that youth was of long ago, but, perhaps unconsciously, I patted my little field book. Truly, wonderful happiness and enjoyment were mine, for had not the Gladiolus yielded to me her most sacred secrets, was I not privileged to gaze into the hearts of Peonies such as the world of my youth had never known, but what was this old refrain so constantly in my mind? Was it a childhood memory of song and flower brought on the breath of a sweet fragrance transmitted through generations of blooming plants, and released by its present environment? Snatches of it crowded my mind: "The world is full of music, if we will only hear," and "We need not list in vain, The wondrous harp of nature is set to ev'ry strain."

Showing a planting of the Brand Peonies at Faribault, Minn.

Yes, the world is full of music and of beauty, we need not *look* in vain, for it is everywhere about us, and greatest of all, we have been given the privilege of helping to increase and spread this beauty about us. We are partners with nature in this work, and while we have been spending time in various early spring occupations, flowers have been leaping to the duties for which they were created.

The Peony, which, in the marvelous new creations has outrivaled all other flowers of the season and reigns Queen of Flowers of Spring is even now showing the tiny buds. They require so little and repay so abundantly that I cannot help but wonder that so few are planted. Perhaps, in many cases, it is because the best time for planting is in the fall and often by that time garden enthusiasm is on the wane, but when those first days, so fragrant with the breath of spring, come and fill our being with the irresistible desire to free everything in the garden of its winter coat, thereby trailing disaster and ruin along our pathway, those belated plans of the preceding fall may be carried into execution, the Peony uncovered and transplanted with good success. Peonies are so hardy that it is not necessary to cover them to protect them from freezing, but a light dressing of coarse manure applied the first winter after planting and when ground is frozen, is very beneficial. And here the enthusiast has the opportunity to work off his surplus energy of *early* spring by removing the covering from immediately about the plants and working it into the soil.

The present month is too late for resetting Peony roots with good success, but it is the *very best* time to watch for Peony troubles, and, when in bloom, to select the new varieties that you will wish to plant in the fall. Watch your plants closely now, possibly some of them are not budding and will not bloom, if so you may be sure there is a reason and now is the time to find it out, for there are a number of things that will cause them not to bloom. Perhaps the fault is in the soil which you may have allowed to become impoverished. It should be rich and deep. If you are intending to do any planting in the fall, select the place for the bed and make up a compost now and have it in readiness. It will take no more time to get the soil ready now than it will to do a hurry up job at planting time.

A good compost is made of three parts sandy loam and one part rotted manure. Add a dusting of bonemeal, also a little limestone to sweeten it—if you have reason to think it a trifle sour—and a little sand to lighten it. If the manure is not well rotted mix the compost thoroughly and fork it over a few times during the summer.

Roots that are planted too deep refuse to bloom. If the soil is a stiff loam the crowns should be not more than two inches below the surface, better, when planting, to cover crowns with a mixture of sand and loam in equal parts.

They are sun-loving plants and slow to bloom if shade is too dense. See that they are planted where they will have sun at least a part of the day. They are also thirsty plants and require an abundance of water but must have good drainage. All these attentions will be repaid with an abundance of beautiful blooms, but it is surprising how well they will bloom under adverse conditions. Transplanted fairly well and allowed to remain in the same place with no care or attention whatever, I have known them to bloom freely for years.

If one has a surplus of roots there is nothing that for as little care will add so much beauty when planted in unusual and out-of-the-way places, such as on sloping hillsides, clumps in the edge of a woodland, near water where their colors may be reflected, wide plantings along drives, and the Old Red planted where its brilliant blooms may be seen through tall waving grasses, is indeed a lovely sight.

Nowhere are Peonies so needed or appreciated, when once known, as in the *Little Home Garden*, every one of which should have its row. The old varieties are now priced within the reach of all, but don't fail to try some of the wonderful new creations. If possible add at least one Peony to your garden every fall, and begin now to get the ground ready for them so you can plant quickly before losing that garden enthusiasm that is so apt to slip away at that season. MRS. A. H. AUSTIN.

As rather expected, the mild winter has been followed so far by a cold spring, and Gladiolus planting has been somewhat backward as has other outdoor garden and field work but real spring may be with us any time now, and we may hope for a favorable growing season. Most reports indicate that vegetation has wintered well and this includes winter grains as well as meadow grasses. Very little stocks considered hardy have been damaged by the past winter.

WAYSIDE RAMBLINGS

GROWING GIANT GLADIOLI.

I wonder how many readers of THE FLOWER GROWER realize that it does not take the skill of an expert gardener to grow Gladioli to a height of five and six feet, and that, too, without the use of either barnyard or commercial fertilizers. These are good when properly used, but not essential. Plant bulbs in the usual way during the month of April, making sure that the ground is spaded deep. Place the bulbs eight to twelve inches apart. As soon as plants are up give them a good, deep hoeing, making the ground around them nice and mellow, then cover over the whole bed with leaves, putting a little dirt on top to keep wind from blowing them away. I use the leaves which I have used in storing Dahlia roots during the winter. Possibly lawn clippings or well rotted stable manure would be equally good as a mulch.

When the warm days come and ground begins to dry, give the bed frequent and thorough waterings, giving them the soapy laundry water about every two or three weeks; this, however, should not be applied too strong, but should be mixed with other fresh water and then applied. The bed should be kept moist all summer and the plants growing well while young.

Soapy laundry water is an excellent fertilizer for all such flowers as Gladoli, Dahlias, Tulips, Sweet Peas, etc., but should never be used full strength directly on the plants.

Such care as this will result in a strong, *healthy* growth, with immense spikes and a large increase in bulblets.

Of course, for the best results, one should have strong, young bulbs which will throw but one flower spike. Any of the strong growing varieties such as *Panama, America, Arizona Rose, Pride of Goshen, White King* or *Summer Beauty* are good. I have grown *America* in this way and sold whole bouquets of them at one dollar per spike. Some pleasure in growing flower spikes six feet high. Try it once for yourself and see.

C. C.

DOES DIVISION OF GLADIOLUS CORMS AFFECT BLOOMING?

On March 1, 1917, I planted indoors in a pot one large corm Gladiolus *Quartinianus*, which was set out about May 1, and bloomed about August 15. Three full length spikes of 12 blooms each were produced. When harvested the latter part of September, the old corm had split, forming four new corms and three very small cormels. The foliage was not removed from the corms till dry.

February 1, 1918, all corms and cormels were planted and treated as above. The four corms each produced a full grown spike, and in addition, two of the spikes when nearly through blooming grew another spike, branching out at a point on the original spike about two-thirds of its length from surface of the ground, the branches each bearing 12 blooms, as did the original spikes.

All corms and former cormels, as well as the new cormels, were harvested Sept. 22. The corms produced cormels as follows:

One gave 3 cormels of ½ inch in diameter.
One gave 5 cormels of ⅛ to ½ inch "
One gave 9 cormels of ⅛ to ¾ " "
One gave 10 cormels of ¼ to ¾ " "

The corms from cormels had grown to ¾ inch diameter, and produced cormels as follows:

One gave 1 cormel ¼ inch diameter.
One gave 1 cormel ½ inch "
One gave 3 cormels ¼ inch "

If division of corms is an indication of old age, the above performance seems to disprove the theory that aged corms do not bloom as well as new ones. I doubt if there is such a thing as an old corm. To me it appears that a corm on division has simply reached its maximum development, becoming a "mother corm," which, as in case of Hyacinths and Narcissus "mother bulbs," produce several spikes of bloom and then develop or split into several corms or bulbs. This maximum development which ends in the formation of new corms by division does not affect their blooming, and these divisions may be looked upon as young corms which in time will reach a maximum growth and subsequent division into new corms.

CHAS. E. F. GERSDORFF.

Note by the Editor:

It should be noted that the above experience was with Gladiolus species *Quartinianus* which is an extraordinary variety because of the long period required for blooming. It might be suggested, therefore, that results from this particular flower could not be given as anything conclusive so far as Gladiolus corms growing old is concerned. However, we do not consider this question at all settled and welcome all information on the subject.

CAUSES OF EXCESSIVE TINTING OF GLADIOLI.

I notice the inquiry in the January number of THE FLOWER GROWER regarding excessive tinting of Gladioli. I had some varieties which showed heavy tinting last year in certain places in my field. The only fertilizer used was bone meal just before budding. Parts of my field I covered quite heavily with wood ashes direct from the stove in winter before plowing. The *Niagara* bulbs put in this part of field showed very excessive tinting while those grown where there were no ashes sown did not show any tinting. The *Homestead Favorite* which for many years has been a clear wild rose color was streaked very heavily. We did not have any very warm weather here last season either before or after rain. I believe the tinting due to the use of wood ashes. Shall not have any to use this season and will be able to tell later about habit of bulbs.

W. THURSTON GIBBS.

Note by the Editor—

It would seem that potash in the soil, from any source, in excess, might cause the tinting referred to. The editor has used wood ashes from year to year to a greater or less extent and the deduction that excessive tinting might be caused by potash from the wood ashes has been confirmed by other growers. Further experience and information is desired along this line.

ENGLAND, MARCH 29TH, 1919—SUGGESTIONS ON BLUE GLADIOLI.

What a morning! Inches of snow on the ground, the trees outlined with snow, and looking like an old Xmas card! And only yesterday the men were sowing parsnips and onions and I was planting a few Gladioli. The roof of the conservatory must be seen to and the glass broken by the frozen snow must be replaced, but apart from this all work out of doors must stand over for how long? A little arranging of the varieties of Gladioli to be planted when able to start again, and then I picked up last year's FLOWER GROWER and begun to turn over its pages the letter of Mr. K. Velthuys arrested my attention, and I again wondered why *Blue Jay* and *Baron Joseph Hulot* should, by so many, be considered the only blues. I cannot claim acquaintance with many of the varieties mentioned on page 45, but *Rev. Ewbank, Muriel* and *King of the Blues* are worth growing. I also grow *LaNuit* and *Phoebus* and see no reason to discard them at present. Heliotrope and Blue Iris produce good spikes, but with me, are slow of increase.

Did not someone in your columns recently state that he was making a particular feature of blue varieties? Then in a recent number another grower suggested Red, White and Blues as the colors to plant this year, and gave three lists of varieties but the blue list only contained the names of two—*Blue Jay* and *Baron Joseph Hulot*. Red, White and Blue! A class for nine vases, three spikes to a vase, three vases of each color, if well filled, would make a striking feature at any show.

SMILAX.

HELPING WEAK STEMMED GLADIOLI.

As a first aid to weak Gladiolus spikes I have had good success with a spring clothes pin tied to one end of a four foot string, the other end of the string attached to a stone weighing about six ounces. Pinch the clothes pin on the tip of the spike and throw the stone over a wire stretched above the row. After two or three days it may be slid along to another spike. A half gross of clothes pins saved several hundred of *Halley, Pink Perfection, Mrs. Francis King* and others grown mostly from planting sizes and small corms.

I grow in double rows so that the wire required is not a large item.

A. C. PERRIN.

NAMING NEW PLANT FAVORITES.

In giving scientific names to plants, the botanist occasionally attempts to honor some famous scientist by associating his name with a newly discovered plant, and the less scientific plant breeder, not understanding the game, follows a somewhat questionable example by attaching to his creations the names of a large number of nonentities. When old man Jones finds a Gladiolus with a yellow streak on a purple petal among his seedlings, it doubtless gratifies the family pride to name the plant Mary Ann Jones but it also adds another horrible example to the already too long list of misnamed plants. It is to be regretted that musical names are not always selected for beautiful flowers. There are many terms which embody poetical suggestions relative to form, size, color, time of flowering, and the like that are available, one would think, to every person capable of breeding a plant worth naming. Then why the head gardener or the amateur of independent means should select such atrocious names for his plants as he does is beyond finding out. There are many feminine names that are not only musical but also suggestive of attractive qualities and beauty but when it comes to the writer's garden he carefully draws the line at Mrs. John Henry Smith and refuses to have any such commonplace ladies in his flower beds.

It may be said in conclusion that the writer does not presume to criticise any of the estimable ladies and gentlemen whose names lend variety if not euphony to the catalogues. He is attempting to point out the fact that such naming is merely an exhibition of bad taste which might become less frequent if namers would exercise some thought before selecting a name for their next rare specimen.

Zed Ampersand.

LATE BLOOMING IRISES.

I have tested *Lurida* and, while it is a rare color, it is rather small and too weak to be profitable. If it has any late blooming qualities they have never been noticed.

Some varieties of the dwarf bearded Iris will bloom in the fall, but at that time we have so many other flowers to occupy our attention that they generally pass unnoticed.

Willis E. Fryer.

ASPEDISTRA.

I was much interested in the article on the culture of the Aspedistra in the February number. I have two of those plants, one of which bloomed recently and both its flower and manner of blooming were unusual and interesting. I feel sure that I shall enjoy them much more for having my attention called to their culture and traits through The Flower Grower.

Mrs. A. H. Austin.

Dividing Perennials in the Spring.

Many of the perennials must be divided annually if they are to give the best results as otherwise the clump or mass becomes too dense and full of old useless growth, with dead stalks in the center. These in time become hollow.

The Hardy Asters, for example, are most satisfactory when taken up and separated every season, and the best time to do this work is early in the spring. They come apart very easily and should be replanted in rich soil. The popularity of the Hardy Asters has grown rapidly of late, and it is easy to make a fine display in a few years from a very small beginning.

Another late blooming perennial which needs the same treatment is the Helenium, the great flower heads of which soon begin to diminish in size if frequent separation of the roots is neglected. It is important to have newly enriched ground for them, as they are heavy feeders, and they prefer a sunny position. Boltonias are in the same class and should never be left longer than two years without a division of the roots, an annual separation being better.

An annual division of the Achillea is also advisable, not so much because the old plants die out as because great numbers of new plants spring up from white, thread-like runners and quickly come to occupy more space than is alloted to them. This also applies to the Bocconia or Plume Poppy, which becomes a nuisance unless most of the new plants are dug out in the spring, to be set elsewhere or thrown away.

The now popular Shasta Daisy needs division every two years, as it makes exceedingly rapid growth. Young plants of this variety of Chrysanthemum should not be allowed to bloom very freely the first year. Once in three years is often enough to divide Pyrethrum Uliginosum, which is another form of Chrysanthemum.

Most of the other perennials do well if divided once in three years, but some should be allowed to go much longer. There is no reason for dividing the Dictamnus or Gas Plant at all, as it will live longer than the average gardener if left alone. The bleeding Heart improves for many years without division. Many people think that this is true of the Lily-of-the-Valley, which is a mistake. This favorite flower should be divided every three or four years if it is to be kept free flowering.

The Larkspurs go well for four years without being disturbed and then the work of separation must be done carefully, for each division must be left with a good crown and plenty of root fibers. The work is best done with a sharp knife after the earth has been washed from the roots, and when replanted the crown should be two inches under ground.

Very early flowering perennials like the Doronicum, or Leopard's Bane, are best divided after they have flowered, in order that blooming may not be interfered with. Plants that have heavy root stalks, difficult to separate, should not be divided too severely, or flowering will be seriously interfered with. This applies especially to Larkspur. When the roots are easily pulled apart, making many distinct plants, the division may be made more freely.

Generally speaking "dividing" perennials is absolutely simple: just chop through the mass with a spade.—E. I. Farrington in *Garden Magazine.*

A more extended and complete description of Gladiolus *Pink Perfection* illustrated on our front cover page this month may be found in the December, 1915, issue of The Modern Gladiolus Grower.

The Glad Philosopher's Musings.

Of course you will never forget when as a child you visited at grandmother's home, and how, with a huge slice of her home-made bread spread generously with butter and honey held in your chubby fist, you followed her out to her garden and watched her at work caring for her flowers.

And when you bought that country place you planned to have an old-fashioned garden just like grandmother's used to be. You were delighted to find, when consulting the seedsmen's catalogues, that all the old-time favorites were still to be had; and as you eagerly made out the orders and wrote the checks, your memory was all the while conjuring up a beautiful mental picture of grandmother's wonderful garden of the long ago.

In due course of time your old-time garden was completed. No expense had been spared and no detail was lacking. Austrian Yellow and Cabbage roses and purple lilacs had been planted at the boundaries; red "pineys," four-o'clocks, hollyhocks and sunflowers were in abundant evidence, as were all the other favorites of grandmother's garden, such as love-in-a-mist, mourning bride and love-lies-a-bleeding. Balsams, zinnias and marigolds flourished in their beds and you had not even overlooked the clove-pinks nor the English primroses. But notwithstanding the thoroughness of your plan and the completeness of the detail, you were impressed with the feeling that somehow your garden lacked the charm of grandmother's, and it failed accordingly to satisfy your expectations.

No, it was not altogether because grandmother was not there to grace your replica that it lacked the charm of her garden. There is another reason, and a logical one it is too, why it failed to bring the satisfaction you had expected. Don't you realize that everything in these days is different from what it used to be when we were young? The bread served on our silver trays does not taste nearly as sweet as the bread grandmother used to bake, and the bees do not make as luscious honey now as they did when you and I were children; and so, isn't it reasonable to suppose that the same kinds of flowers do not bloom as gorgeously beautiful nowadays as they did long years ago in grandmother's garden?

The Glad Philosopher.

Continuous advertising pays the best. This fact has been demonstrated many times over, but many growers of flower stocks are slow in grasping the idea. One's name should be kept before the flower loving public at all times whether it is the selling season or not. Get acquainted and keep acquainted should be the motto.

THE IRIS.

Iris Seedlings.

[*Written expressly for The Flower Grower.*]

Wouldn't it make you tired to plant 10,000 Iris seed one inch apart in the row? I have reference to Mr. Rollins' article on sowing the seed, and transplanting the baby seedlings. My way is thus, and take your choice:

The seed are sown in shallow drills the width of a medium sized hoe, and sown forty or fifty to the foot of row. I generally stratify the seed in moist sand as soon as cleaned, and sow in September or October.

The following July the little fellows are transplanted, but not *six inches apart each way*, but in rows at least three feet apart, and the plants one foot apart in the rows. They can be left where planted until all have bloomed, and each one be separate from its neighbor, but how would they be if planted six by six inches? There would be a solid mass of Iris, and a conglomeration of many colors, and impossible to separate one from the other.

The first Iris seedlings that I raised the seed was dropped about four inches apart in the rows, and I found it a very tedious job to do. These were left where planted until they bloomed, but it was impossible to keep each one separate when they were transplanted, and some of them it was necessary to rogue afterwards.

I believe that the question of germination is as much in the condition of the soil as in the seed. Last season I had an object lesson, and it showed me that the seed should not be allowed to become dry before or after planting.

My seedling rows were 18 rods long, and at one end they were covered with a snowdrift that kept the ground thoroughly soaked when it was dry the balance of the rows. About every seed germinated where the snowdrift was, but in other parts of the rows there would not be a plant for two or three feet, and they were all sown at the same time, and under the same conditions—40 or 50 to the foot.

These were all transplanted last July and in October many plants showed as many as four divisions, and I never saw so large plants before when so young. A great many of these will bloom this June.

Do not disturb your seedling bed after you dig the seedlings for many seed that failed to germinate the first season will germinate the second year. Last season we dug over 300 from a little patch of seedlings that were all dug the year before.

WILLIS E. FRYER.

Fleur-de-Lis.

THE NATIONAL FLOWER OF FRANCE.

I notice with great satisfaction that some Iris growers, specialists and dealers, have been very progressive in one respect in that they have cut out the word "German" in describing or referring to the bearded or flag Iris, *Fleur-de-Lis*, or Lily of France. A few growers have renamed it Liberty Iris, which is a happy thought and perhaps more appropriate than calling it German. The French long ago adopted the *Fleur-de-Lis* as their national flower and glorified it. The bearded Iris is widely known as the *Fleur-de-Lis* and it might be prudent to let it go at that for awhile. It is much fairer to France than to call it Liberty Iris. Some specialists have even cut out Germanica, as the botanical classification, which is also a good idea, for just as soon as it is referred to as Iris Germanica, people will call it German, a natural result. It is not German in origin. It was a mistake originally to call the species Germanica, and there has been confusion ever since. If the bearded Iris should be named after any country it certainly should be France, for it appears that there have been more named varieties derived from France than from any other country, certainly, at least, as many. Not to give the French word *Fleur-de-Lis* a prominent place or specifically mention it as a heading, would take from France the universal renown of being known as the home of the most beautiful species of Iris. So why not "let well enough alone," and why not let France retain this honor by restoring the poetical, romantic and charming French word of *Fleur-de-Lis?*

" O flower de luce, bloom on, and let the river
Linger to kiss thy feet?
O flower of song, bloom on, and make forever
The world more fair and sweet."

—*Longfellow.*

H. W. GROSCHNER.

Northwestern Peony and Iris Society.

A PLEA FOR THE IRIS.

The following very interesting paper has been prepared by our Assistant Secretary, Mr. T. A. Kenning, and I take pleasure in presenting it to our readers:

"The indifference of so many people to the charms of the Iris is a continual surprise to the Iris fan. Even among the members of The Northwestern Peony & Iris Society, there are many who give this beautiful flower scant attention. People who really love flowers have said to me that they did not care for the Iris.

I am persuaded that this indifference arises from a lack of acquaintance with the newer varieties of wonderful beauty and the long period of bloom that may be had by a proper selection of varieties that extends from April until July.

The Peony is a glorious flower and I am adding to my collection each year, but to me the Iris has a charm and etherial beauty not possessed by any other flower. The range of the coloring is wonderful and new shades are constantly being brought out by hybridizers. People have stood before Her Majesty, *Jacquiniana* and other good varieties in my garden and exclaimed, 'Why I never knew Irises were that color.' Blue and yellow marked the beginning and the end of their conception of Iris colors.

The dwarf Pumila Iris is one of the first flowers that blooms in my garden. After a few warm days in April it suddenly opens its welcome blossoms and is prized the more because there are so few other flowers to compare with it. This variety can be had in a number of colors.

There is a new race of Intermediate Irises which bridges the period between the Pumilas and the German Irises. It is a cross between these two varieties and is intermediate in height as well as in blooming period. There are some very good things in this group.

The main show is on when the German Irises bloom in May. I don't know who put the German tag on this group but it wasn't 'Made in Germany.' The real Iris 'Bug' divides this group into sections such as *Neglecta*, *Squalens* and a few others that aren't quite so bad. These names are hardly fair to such beautiful flowers and it is just as well to forget them unless you are a collector. This group comes in every color, shade, and combination of colors and there are hundreds of named varieties to choose from. One variety, *Mrs. Alan Gray* is said to bloom again in August but I don't know this from experience.

The Siberian Irises come on in June about the time the Germanicas are through. They are smaller and more delicate looking and there isn't such an embarassing lavishness of varieties as there are among the Germanicas, but they are very pretty and fill in the time until the Japanese come on in what should be a flood of glory. I say, should be, because my sad experience is that they don't. Mine have only bloomed once in the four or five years that I have had them. When they do bloom they are beautiful beyond description, and I hope on year by year. Perhaps their location is too dry, for while they want their feet dry in winter they can stand a lot of moisture in summer, especially at blooming time.

The Iris is about the hardiest plant we have. I used to have trouble with their rotting over winter but found I was too good to them and covered them too heavily. Now, if I cover them at all, it is just with a few corn stalks or other coarse material that will hold the snow, and I have no more trouble.

One summer I dug up some surplus plants and threw them out by the back fence. About two weeks' later, hearing that a friend wanted some, I went out and got them and found them in good condition. Few .plants would stand such neglect.

The German Iris seems to enjoy any amount of heat and will endure severe drought.

One quality of the Iris that is not generally appreciated or known is its fragrance. Like the Peony, some are more fragrant than others and in some the fragrance is more pleasing than in others. *Jeanne de Arc*, besides being a beautiful flower has a wonderful fragrance. It is equal to some of our most fragrant Lilies. When I first saw it at the Horticultural Show last June, I went back to it again and again merely to smell of it, and wasn't satisfied until I had bought a root.

The Iris is very inexpensive, but you should not hesitate to buy some of the more expensive varieties and I will tell you why. If you have something real good you will have many visitors to your garden. They will want some of those good varieties and if they know they can pay you for them they will feel free to ask for a root. The plants increase very rapidly and will be all the better for being divided every three or four years anyway. Thus your expensive varieties will cost you little or nothing.

Gardening is looked upon as rather a mild stimulant, but if you want to experience something really exciting, begin raising seedlings. One of the easiest flowers to raise from seed is the Iris. One spring I found a whole colony of little Siberians growing around the mother plant. They were all a deep purple like the parent so I gave them all away. I planted seed of the German Iris in August as soon as they were ripe and was rewarded the following spring by a bunch of very sturdy little plants.

The way they grew was a wonder and I expect them to bloom this spring. I also have a bunch of Japanese seedlings, but am not so hopeful about them.

I have raised a good many Gladioli from seed and know something of the joys of anticipation, and also of some realization when some seedling turns out to be extra good. Of course the percentage of real good ones is small but there is always the chance of getting something very good, and it adds a zest to gardening that nothing else can."

W. F. Christman, Sec'y.

Join the American Gladiolus Society.

Secretary Beal writes that all members joining the American Gladiolus Society will be entitled to a full year's membership, which means beginning with the annual meeting in August and extending to the next annual meeting in August 1920. Also please note that members of the American Gladiolus Society are entitled to receive The Flower Grower without extra charge during the period of their membership. Don't forget also that new members are entitled to the one dozen corms of the beautiful variety *Myrtle*.

All lovers of the Gladiolus, whether they are growing commercially or as enthusiastic amateurs, should be members of the American Gladiolus Society. The society has done and will do a vast amount of good work.

Fifty Years Acquaintance with the Gladiolus.

[*Written expressly for The Flower Grower.*]

BY HENRY C. ECKERT.

Over fifty years have passed away since I saw the first Gladiolus. In the year 1867 my father, who was an enthusiastic lover of flowers, and had one of the most beautiful gardens in this county, planted the first Gladioli in his garden on Drumhill Farm, five corms in five varieties. I remember two of them, one was the original hybrid Gandavensis, the other one was *Napoleon III*, a crimson red with white throat, and was regarded in those times, as one of the best sent out by the French hybridizers. Two years later he sent an order for six more kinds to that old reliable seed firm, B. K. Bliss & Sons, New York. Of that lot I remember only one, *Lord Byron*, which was an improvement on *Napoleon III*; color was a brilliant scarlet red with large pure white blotches in throat. Indeed, I think it was equal to *Princepine*, introduced several years ago.

View on the Gladiolus grounds of A. B. deGroat, Bath, N. Y. Mr. deGroat and his young son are pretty well loaded with well grown spikes of Gladioli. The foliage indicates an extraordinarily strong and healthy growth.

My mother being in poor health, we moved in the year 1875 into the town of Belleville, and next season we imported about twenty varieties from Ernst Benarz, Erfurt, Germany. In this lot were three which I think were nearly equal to some of the best introductions of recent years. They were *Shakespeare*, a very good light colored one, which is still in the trade, being a first class kind for the florist trade; *Meyerbeer*, a large red which did not increase, and *Eurydice*, one of the best light colored Gladioli ever introduced. It had large, open flowers of the lily type, and the coloring in a favorable season, was enchanting beyond description. In that importation was also a white one, *Angele*, but it was not pure white, and the flower was small.

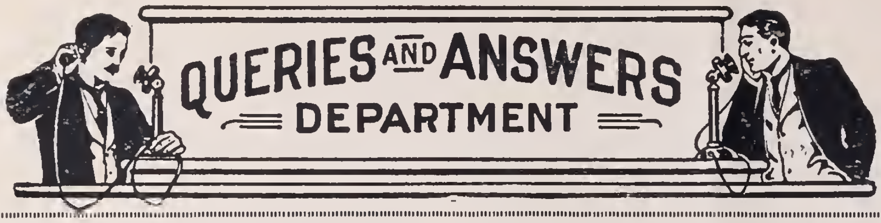
Having married, I bought a farm several miles from town, and took possession in the fall of 1879. I had then about one hundred corms, among them being some of the best varieties introduced up to that time, put them in the cellar of my new home, and lost them all as the cellar was not frostproof. Up to that time nearly all Gladioli in the trade belonged to the Gandavensis class; they were slow to increase and I do not remember that they produced any bulblets. Being very busy on the farm I did not invest much in Gladioli the next five years, buying only a few varieties every year, among them were *Antique, Carnation* and *Bicolor*, but they were no improvement on varieties introduced in preceding years.

[*To be Continued.*]

The Popularity of Outdoor Gardening.

It was quite natural that the great interest in gardening awakened throughout the country among amateurs, and which led to the organization of the numerous garden clubs should find expression mostly in the outdoor garden. The call of the garden is loudest in the spring when nature reclothes the earth with verdure and when we look eagerly for the first blossoms in the open air. Naturally we want to be out in the fresh air of the garden at this season and it is here that our interest in the hardy plants, shrubs, vines and trees begins or gains new inspiration. And after all is not the outdoor garden by far the largest, most profitable, the most interesting field of garden work and also the most enduring in the perennial satisfaction which it affords? The Snow drops, Crocuses, the many charming forms of the Daffodils, the Hepaticas, the orchid-like Irises extending in their varied types to well beyond midsummer and while these are still blooming the early Lilies come and their many succeeding later varieties continue their flowering period into the late autumn; these accompanied in their seasons by the Peonies, Larkspurs, Hollyhocks, Phloxes, Japanese Anemones and hundreds of other hardy perennials constitute a panorama of beauty and interest that no greenhouse collection can rival. It is unfortunate that many of the new varieties and recent introductions are not more generally seen in such gardens, as they afford an almost inexhaustible supply of material yet but little known. This is also true of hardy shrubs, vines and trees of which the Arnold Arboretum, alone, in the last six or seven years has introduced about fifteen hundred species and varieties new to cultivation. With so vast a supply of material which must sooner or later become known, and find place in our gardens we cannot but feel that the outdoor garden is likely to become and continue the major field in horticulture —*Horticulture.*

H. E. Meader reports that Gladiolus growers are responding well to his offer of bulbs of the beautiful variety *Myrtle* in connection with each new membership in the American Gladiolus Society. It is a favorable opportunity to get started with this variety and Gladiolus enthusiasts should be members of the American Gladiolus Society anyway.



[This department of The Flower Grower is intended to be one of its most helpful and valuable features. All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication.]—Editor.

Dividing Peonies.

To the Editor:—

How often should I divide my Peonies? I have been told that they ought to be lifted and divided every two or three years, to get a maximum of bloom. C. M.

Answer: You have been misinformed. Only those who raise Peonies for sale divide them as often as every two years. While some varieties come into flower the first Spring after planting, many others do not bloom for two or three years, and some, like Richardson's *Rubra Superba*, do not usually begin to bloom before the fourth year. Mr. Kline, of the Mohican Peony Gardens, says: "For permanent planting Peonies should be set from three to four feet apart each way and left undisturbed indefinitely." Let me also quote from Good & Reese's catalogue, under the caption, Peonies for Exhibition: "The plant should be at least five years old, eight years would be better."

Last summer, at the Cleveland Peony show, some enthusiasts who had been in the habit of clubbing together and buying the higher priced Peonies, then growing them a year or so and dividing them up amongst themselves, asked one of the leading exhibitors how he got such marvelous blooms from certain varieties that they also had, but which did not perform so well for them. He replied that it was because they did not allow their plants to acquire the age at which they could do their best. He advised them to use manure liberally each fall, and divide less frequently.

So much has been written about the dangers of creating disease in Peonies by covering them with manure, that many people are deterred from giving them the amount of feeding they require. Those who grow the finest Peonies manure liberally, only exercising care that it be spread around the plant rather than directly on top of it.

R.

Fertilizer for Gladioli.

To the Editor:—

Will you please advise through your columns what is considered the best fertilizer for Gladioli? G. B. J.

Answer:—There is no better fertilizer for Gladioli, and for most any other crop for that matter, than well rotted cow manure. Horse manure, or sheep manure, or pig manure are also valuable if well rotted. Gladioli do best and produce the cleanest and strongest corms on land which has been heavily manured and used for some other crop the previous season, but if manured in the fall and the manure plowed under, results should be satisfactory.

While commercial fertilizers will not take the place of stable manure, yet in the absence of same and assuming that the land is fairly well supplied with humus, any good commercial vegetable fertilizer may be used at the rate of from 500 to 1000 lbs. per acre. Fresh hard-wood ashes applied at the rate of 1000 lbs. to 2000 lbs. per acre are also valuable, especially on sandy land.

Manuring Garden.

I should be glad of advice as to manure for my garden. For more than forty years it has had a good supply each season of farmyard manure—horse and cow, principally the latter—and every few years well limed. Now my gardener thinks that in the coming year it would do good to confine the dressing to chemical manures for all crops, such as peas, beans, cabbages, and fruit trees. What would you advise and what kinds should be used? We use for some things now fish manure. Would this do for all purposes? Ayrshire.

Answer—As the garden has been so regularly and well manured, and occasionally limed, a change in the shape of artificials will certainly be of benefit for a season or two. Basic slag for heavy and bone-meal for a light soil should be dug in at once at the rate of 4 ozs. per square yard. In early spring, that is, before cropping commences, apply 2 ozs. of superphosphate and 1 oz. sulphate of potash to the square yard, and hoe or lightly fork it in. To encourage free growth apply 1 oz. of sulphate of ammonia to the square yard after the crops are well above ground. This may also be used occasionally during the growing season, but do not apply more than the quantity mentioned at one time. Fish guano is excellent for asparagus, seakale, and beetroot.—*Gardening Illustrated* (English.)

After many years of careful study and experimenting in the growing of bulbs, Mr. C. S. Tait, already well known to our readers, has decided that Brunswick, Ga., has great advantages for such work on a large scale. To carry out his ideas he has associated with him two of his sons. Mr. Tait writes that he has three more sons coming along as reserves. Even at this early stage in their experience Tait Bros. Co., which is the new firm name, already have the largest bulb farm in Georgia. See their announcement in the April issue.

THE PEONY.

Getting Acquainted with the Peonies.

[*Written expressly for The Flower Grower.*]

BY CHESTINE GOWDY.

Every one who has a hardy garden or who expects to start one will want to include some Peonies in his year's plans. Now, fall is the time to plant Peonies, but June is the time to get acquainted with them, and to plan for future planting.

It is not enough to have some red, white and pink Peonies. We may have instead our favorite shades of pink and red, yes, and of white. We may have a variety of types—single, Japanese, crown, bomb, rose and semi-rose; or, to be less technical, we may have single, semi-double and double, loose and compact, flat and deep blooms. We may so choose our plants as to have a long season of bloom, and we may have flowers with the fragrance of the rose.

If we are in the neighborhood of large Peony gardens we should be sure to visit them during the blooming season. Such a visit will prove a most delightful as well as instructive experience, for here the new varieties as well as the good old kinds may be seen.

Then a few postal card requests will bring the catalogues of Peony growers, and with these, interpreted by our June observations, we shall be able to choose our list intelligently, whether it be long or short.

American Gladiolus Society.

Prize offers in addition to those published in the March issue.

Non-Commercial Growers.

Arthur Cowee, Berlin, N. Y.

For largest and best display of *Primulinus Hybrids*. Offers 200 extra *Primulinus Hybrids* valued at $30.

Garden Magazine, Garden City, N. Y.

The Garden Magazine Achievement Medal for the finest quality of bloom in the non commercial classes. Exhibitors showing less than 25 spikes not to be considered.

OPEN TO ALL.

Vaughan's Seed Store, Chicago, Ill.

For the best 25 blooms each of *Margaret, Chicago Salmon* and *Mrs. Brewster*, or for 75 blooms of any one of these varieties, offers a silver cup to the value of $15.

Homer F. Chase, Wilton, N. H.

For best 25 spikes *Mrs. Watt*, $5.

John Zeestraten, Mansfield, Mass.

For best six spikes *Prince of Wales*, offers stock to be selected from his next season's price list. First prize $7.50; second prize, $5; third prize, $2.50.

Richard Diener Co., Kentfield, Calif.

For best spike *Thomas T. Kent*. First prize, $6 second prize $4; third prize, $2.50.

For best spike *Anna Eberius*. First prize, $6; second prize $4; third prize, $2.50.

Above offer substituted for one made as published in the March issue of The Flower Grower.

Geo. Churcher, Woodcote, Alverstoke, Eng.

For best three varieties of blue Gladioli, three spikes each. First prize $5; second prize, $4; third prize, $3; fourth prize, $2; fifth prize, $1. *Baron Joseph Hulot* and *Blue Jay* not to be admitted in competition.

Time to Prune Lilacs.

Lilacs form flower buds from midsummer to late autumn. Therefore the bushes should be pruned as soon as the blooming season is over, and before they begin to form buds for next year's flowers. If pruned in autumn, winter or early spring many or all of the flower buds may be destroyed.

Decaying blossoms should be removed immediately after Lilacs are through blooming, and superfluous wood, both inside and outside, should be thinned out freely. When Lilacs are twelve to sixteen years old they often become "leggy." In such cases they may be cut down to within about two feet of the ground. They will immediately throw up strong shoots, and if these shoots are "topped" they will throw out laterals, and the bushes will soon again become shapely and compact.

Lilacs may be transplanted at any time from autumn until spring, if the ground is not frozen. To fertilize them put round each bush in the autumn a heavy mulch of stable manure, and dig it in, not very deeply; in early spring. A moderate spread of bone meal may be worked in slightly once or twice during the summer, right after the blooming season.—*Country Gentleman.*

Memorial Trees.

[*Continued from page 41.*]

those who died to make the world safe will result! Bronze tablets and granite shafts have a proper place in the usual memorial scheme, but no monument that the human brain can conceive or human hands erect can more suitably express the beautiful thoughts of remembrance, resurrection, longevity and protection underlying the setting out and dedicating of the memorial tree. In the words of Sergeant Joyce Kilmer, the talented poet-soldier who last July made the supreme sacrifice—

"I think that I shall never see
A poem lovely as a tree;
A tree whose hungry mouth is pressed
Against the earth's sweet flowering breast;
A tree that looks to God all day
And lifts her leafy arms to pray;
Upon whose bosom snow has lain;
Who intimately lives with rain.
Poems are made by fools like me,
But only God can make a tree."

Catalogs and Price Lists.

The Bungalow Gardens, Netcong, N. J.—Very complete list of Dahlias with color arrangement and classifications according to key.

J. C. Grossman & Wife, R. D. No. 2, Wolcottville, Ind.—Retail catalog and price list of Gladioli. Some of the best standard varieties and many of the new and rare sorts.

Benjamin C. Auten, Oronogo Flower Gardens, Carterville, Mo.—Separate wholesale and retail lists of Irises.

C. Louis Alling, 251 Court St., West Haven, Conn.—1919 catalog of Dahlias, 16 pages. Very complete list with unusually complete descriptions.

Wilbur A. Christy, Mapleshade Gladioli Farm, 315 N. Tod Ave., Warren, Ohio. Price list of the Christy originations and some of the best standard varieties. The new variety, *A. W. Hunt*, is fully described.

East Hartford Gladiolus Co., E. M. Smith, President, 65 Olmsted St., East Hartford, Conn. 1919 catalog and price list of Gladioli and Dahlias. Brief descriptions and retail prices.

H. E. Mason, Rocky Ford, Colo. Catalog and price list of Dahlias, Cannas and Gladioli. Eight pages and cover. Also nursery stock, Shrubs, &c.

H. E. Meader, Dover, N. H.—Well printed catalog of Gladioli with some extra good descriptions of some of the best new and rare varieties. The Kunderd originations are especially well represented; the best European novelties also described.

Statement of the Ownership, Management, Circulation, etc., required by the Act of Congress of August 24, 1912, of THE FLOWER GROWER published monthly at Calcium, N.Y., for April 1, 1919.

STATE OF NEW YORK
COUNTY OF JEFFERSON } SS:
CITY OF WATERTOWN

Before me, a Notary Public in and for the City, State and County aforesaid, personally appeared Madison Cooper, who, having been duly sworn according to law, deposes and says that he is the Owner of THE FLOWER GROWER and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:
Publisher—Madison Cooper, Calcium, N.Y.
Editor—Madison Cooper, Calcium, N. Y.
Managing Editor—None.
Business Manager—None.

2. That the owner is Madison Cooper, Calcium, N. Y.

3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent. or more of total amount of bonds, mortgages, or other securities are:
None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

(Signed) MADISON COOPER.

Sworn to and subscribed before me this 8th day of April, 1919.

[Seal.]

(Signed) C. HOWARD GREEN.

(My commission expires March 31, 1921.)

CLASSIFIED ADVERTISING.

Growers having surplus stock for sale will find this department effective in disposing of it. Five lines (about forty words) $1.00 per insertion. Additional lines 15 cents each.

GLADIOLUS NIGRICANS—Strongest growing dark maroon, larger spike than Empress of India, among the best dark shades, $1.50 per dozen, $6 per hundred. Also Niagara, fine yellow at $1 per dozen, $5 hundred. Stock of many other varieties. Also Dahlias and Hardy Perennial plants.
E. R. Macomber, "Evergreen Nurseries,"
44 Leonard St., Woodfords, Maine.

GLADIOLUS CRACKERJACK—Large flowers of rich velvety dark red, throat spotted yellow and dark maroon. Bulbs 1¼ inch to 1¾ inch, 50c. per dozen postpaid; $3.50 per hundred, transportation paid by purchaser. Jas. H. Smith, Milan, Ohio.

20 SOUND TUBERS, all different, labeled, $1. Six sets (120 Dahlias) $5. All postpaid, or larger Dahlia Tubers with extras by express collect. Catalog free. Alt F. Clark, "The Dahliast," Netcong-Stanhope, N. J.

HAVE YOU ORDERED "A. W. HUNT" YET? Your chance this year will soon be gone. See ad. in late issues of THE FLOWER GROWER, or send for price-list to Mapleshade Gladiolus Farm, 315 N. Tod Ave., Warren, Ohio.

GLADIOLUS—Limited quantity of Gladiolus bulbs and few Dahlias.—Mrs. King and Halley, 30c. dozen; Panama, 75c.; Czar Peter, Niagara, Peace, $1; War, $1.25; Loveliness, Pendleton, Rosella, Schwaben, $1.50; Titanic, Mary Fennell, $1.50; Evelyn Kirtland, 30c. each; Prince of Wales, 35c. each; Madam Sully, 50c. each. Bulbs 1¼ inch and up.
E. M. Sanford, Madison, New Jersey.

"EAST HARTFORD GLADIOLUS CO."—If you wish to know what good flowers are buy bulbs from us. Dahlias and Gladioli. Send for catalog.
E. M. Smith, 65 Olmsted St., East Hartford, Conn.

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DELPHINIUM SEEDS from the great "Hood Acres" collection. This is the first season to offer seeds from them. All past sales have been limited to plants. Last season's propagations have been insufficient to fill orders, which came from the most critical growers who saw the spikes in bloom. The seeds are carefully saved from about 40 named varieties, representing the choicest of English, French, Dutch and American originations. Liberal sized packets 50 cents. Chas. F. Barber,
No. 64 Front St., Portland, Oregon.

IRIS—JULY DELIVERY—75c. per 10 if more than three varieties are ordered. Sale subject to stock unsold. Adonis, Dalmarius, Darius, Hector, Herroditas, Honorable, Ossian, Princess Victoria Luise, yellow bi-colors; Alexander, Celeste, Glori de Hillegom, Racemosa, Tineae, lavender selfs; Black Prince, Charmant, Empress, Ivorine, intermediates; Garibaldi, Jacqueminot, Mme. Pacquitte, claret; also the vari-colored La Tendre, Lord Salisbury, Pres. Thiers and Miralba.
The Glen Road Iris Gardens,
Wellesley Farms, Mass.

FLORA-CROFT GLADIOLUS GARDENS—Cultural directions and Descriptive Retail Price List of the best in Gladioli and Perennials for the asking. This book also announces our Third Gladiolus Show for Lansing. Send for one.
121 Island Ave., Lansing, Mich.

WANTED—Large first size Baron Joseph Hulot. Quote price by the hundred. Also large bulbs of any other blue varieties, especially young, clean and strong bulbs suitable for growing bloom for exhibition. Bulbs of Madam Mounet Sully wanted, any size, and selected Primulinus Hybrids first or second size. Write "Cut Flowers," care THE FLOWER GROWER, Calcium, N. Y.

COLD STORAGE—The Editor of THE FLOWER GROWER makes a business of furnishing plans for cold storage plants and also contracts the equipment for same. We handle all kinds, big and little.
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R. D. No. 3 **Logan, O.**

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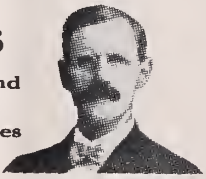

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Golden Measure, finest yellow -	Each	$5.00
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First *Size* and *Quality.* *Postpaid* for *Cash.*

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I have been importing the cream of the new productions of the leading English specialists who have made wonderful improvements over the earlier varieties in this class. They have received the highest awards abroad but are not generally listed in this country. I will send a set of one dozen of the best, all different, strong tubers (not plants, as above) for $5.00. Generous packet of seed saved from larger collection, 25c.

GLADIOLI—Choice Seedlings

As advertised in April, a few hundred left at $5.00 per hundred.

All above offers prepaid in zones 1–4.

F. P. WEBBER, - - - Newport, R. I.

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SCHWABEN
It will Make you Money.
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Is a variety of great vitality. Is a good producer. Grows readily from bulblets. Produces large bulbs quickly. The large flowers are fine keepers and stand shipping well: The spike is stiff, strong and long and the flower buyer feels that he's received something for his money. (Can you say this of some other varieties now extensively grown?)

The soft sulphur color fits in well with any color scheme and is especially fine for autumn work.

I offer a small surplus of fine bulblets while they last at 500 for $1.00, 1000 for $1.75, 2000 for $3.00.

ALL POSTPAID ANYWHERE.
Michigan or South Sea Isles.

These have been kept in damp sand and should germinate readily. Can be planted any time this month and will be ready to dig last of September.

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Then HURRY! LAST CALL!!

Raymond M. Champe
Walled Lake, Oakland County, Michigan

THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

Vol. VI
Number 6

June
1919

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
Entered as second-class matter March 31, 1914, at post office at Calcium, N.Y., under act of March 3, 1879.

PUBLISHED MONTHLY ON THE FIRST OF THE MONTH BY MADISON COOPER, CALCIUM, N. Y.
Subscription price: Three years, $2.00; One year, $1.00.

POPPIES AS MEMORIALS.

[*Written expressly for The Flower Grower.*]

BY BERTHA BERBERT-HAMMOND.

"Summer set lip to earth's bosom bare
And left the flushed print in a Poppy there,
Like a yawn of fire from the grass it came,
And the fanning wind puffed it to flapping flame."
—*Francis Thompson.*

The brilliant scarlet Poppy which has so suddenly leaped into public favor, has heretofore not enjoyed garden popularity, as many flower growers recognized the fact that it required considerable artistic ability and skill in arranging and grouping to keep its gaudy scarlet color from clashing with the soft, harmonizing pastel shades usually selected to grace milady's garden. But it is quite safe to predict, that due to its intimate association with the battle fields on which American heroes sacrificed their young lives, the Poppy will, in the future, be planted here, there and everywhere as a living emblem of the nation's lasting esteem and reverence for those who rest under the rude crosses "over there."

"In Flanders fields where Poppies blow."

There are numerous species of the Poppy family (Papaveracæ) but the Poppy referred to above by the martyred poet-soldier (McCrea), who himself lies under the Poppies of France, is probably the old, common variety of Poppy (Papaver Rhœas) from which the Rev. Wilks of Shirley Vicarage, England, an ardent nature-lover and successful hybridizer, developed the beautiful Shirley Poppies of cultivation which exhibit such a wide range of color from the most delicate shades to the richest of dark hues.

The showy, scarlet Poppy blooms in May and June and its season of flowering may be lengthened if the flowers are not permitted to mature. If allowed to produce seed, it will self-sow freely, monopolizing more than its share of the garden. Its voluptuous flame-red flowers, on graceful stems, strikingly contrasted with the beautiful foliage make a picture so remarkably gorgeous as to beggar description.

GLADIOLUS—*WHITE GLORY.*
(For description see page 61.)

Now that the seal of governmental approval has been granted by the planting of Poppies in the parks of the Nation's Capital, the garden popularity of the Poppy is assured and hints on its culture will be in order.

The Poppy is easily raised from seed sown early in autumn or in spring. The soil should be sandy, porous and well drained. As the seed is exceedingly small it requires some care in sowing. It is well to mix the seed with 10 or 12 times its bulk of fine dry sand, broadcast it thinly *where the plants are to remain*, and then cover lightly. It usually germinates quickly and the seedlings should be thinned out to at least eight or ten inches apart so as to guard against crowding, a condition to be especially avoided in Poppy culture, as it is the cause of stunted growth, lack of bloom and the rotting at the base of the plant, that sometimes attacks the Poppy during continued hot, moist weather. Though the transplanting of Poppies is considered difficult, it can be successfully accomplished with well grown plants if one is careful not to injure the long tap roots. When transplanted, the growth of the plant is retarded, the time of bloom delayed usually for a year and the foliage invariably lost, but in a few weeks' time when the plant has recovered from the shock caused by transplanting, the growth is renewed and new leaves appear.

Where it is difficult to start Poppy plants early in the open ground, considerable time may be gained and the difficulties of transplanting minimized by planting seeds indoors in egg shells filled with soil and set close together in a shallow pan or box of earth. The seeds in the egg-shell

[*Concluded on page 57.*]

Plant Quarantine Number 37.

Comments and Suggestions by Prof. Donald Reddick.

[*Written expressly for The Flower Grower.*]

YOUR EDITORIAL in the January issue expresses mildly the view held by a great many ornamental horticulturists and others on the enforcement of quarantine No. 37 of the Federal Horticultural Board. In the present day of a society of nations, the argument you use would seem to be sufficient to prevent the adoption or enforcement of such a regulation;[1] but that very argument (referring then to our allies) was employed at hearings before the Board, at various times, apparently without effect. Other arguments were used, too, seemingly with as little effect. It may be worth while to recite some of the arguments. Public sentiment is very much aroused now and it is even possible that concerted action might bring a speedy repeal of the regulation although those knowing about conditions in Washington doubtless would be inclined to the idea that the only possible means of relief lies in Congressional action which would abolish the Board.

1. It is contended that the plants absolutely prohibited fall in the class with luxuries. While it is true that some of these plants can be bought only by wealthy people, it is equally true that some of us enjoy certain plantings of our more fortunate neighbors as much, perhaps, as they do themselves. And in the cities and large villages, who can say that a well-kept park is not the property of the masses? The writer lived in one city once where the parks with their plantings of domestic and foreign trees, shrubs and other ornamental plants fell in the class of necessities.

2. Secretary Houston says in his notice that "there exist in——and other foreign countries and localities certain injurious insects and fungus diseases new to and not heretofore widely distributed within and throughout the United States." He does not undertake to mention a single example.[2] The Chairman of his Horticultural Board, however, has mentioned at various times,[3] a number of examples of previous introductions. The list is a stock one and is recited with more or less conviction by various persons. It usually begins with San José scale and its embellishments and end depend largely on the imagination of the promulgator. (This is not a facetious remark.) An answer to this statement of the Secretary might be a challenge to cite examples and proofs thereof. It is a fine answer because the only examples that can be cited are of things that have happened. There is no evidence whatever that any of the insects or diseases mentioned in any list will be of consequence in North America. In fact most of the evidence is on the other side. The diseases and pests of Europe and America have been compared by various scientists and the most striking thing is that the troubles are different. A notable example is that of the dreaded potato wart disease. Trials made at numerous places in this country indicate that the disease will be of little or no consequence in most of our potato growing regions. Likewise the Nun moth which is so injurious in European forests is of no consequence in Canadian forests where it is now known to exist. This is experimental evidence of a kind very meagre at present. But there is another kind of evidence which is nearly as good. There has been an unrestricted flow of plants of all descriptions from Europe, in particular, to North America for nearly 300 years. Considering the enormous quantities of material brought over it may be asked in all seriousness whether there is a single species of bug or fungus in all of Europe which has not been brought to this country thousands of times. If this is true, as seems likely, it would appear that all of those capable of establishing themselves in this country have had ample opportunity to do so and for that reason there is no object in enforcing the regulation at this late date.

3. The Secretary says "new to and not heretofore widely distributed within and throughout the United States." This is a stock phrase but constant repetition of it does not necessarily make it fact. If the truth were known it is not improbable that several of the diseases and pests mentioned in lists do exist in this country. These very words were used only two years ago in connection with a corn disease. Subsequent examinations showed that it exists in several states; and museum specimens show that it has been here for a long time. In other words the disease is of little or no consequence and, therefore, had not come to the attention of scientists. Would it not be well to find out what we have at home before making trouble with our neighbors?

4. "Which affect and are carried by nursery stock." Not to mention innumerable other ways. The packing material about various articles is likely to be a means of entrance of various fungi and insects, particularly when this material consists of excelsior, peat, sphagnum, wild grass, etc. Indeed, the European corn worm is said to have been brought in on jute. Why not shut off the jute business? We should not traffic in a thing which is likely to be such a menace to an important food crop. In other words there is not physical means of preventing introductions of plant pests unless we wish to close the door to all foreign commerce. Likewise all our motor trucks, big guns, automobiles, camp equipment of every description, soldiers' uniforms and shoes should be subjected to disinfection because the earth adhering to them may harbor the germs of plant diseases or the eggs of noxious insects. It is fair to ask whether more earth will not be moved in this way from France to the United States during the next ten months than would come in balls of earth about plants in the next ten years?

5. Regulation 2. Field, vegetable and flower seeds are exempted. So far as diseases are concerned it is probably true that more parasites are disseminated widely *in* or *on* or *with* seed than in any other way. The bacterium causing a blade blight of barley lately has been shown to remain alive for at least two years on perfectly dry seed. The fungus causing stinking smut of wheat is in the seed. In such familiar examples as bean weevils the insect or an egg is in the seed for a considerable period. Such things menace the food crops of the country, yet seeds are exempted. How much more danger lies here than in admitting ornamentals, especially in view of the fact that the majority of insects and plant parasites have highly specialized food habits and are often restricted to a single species or variety!

6. It is a question whether this attempt to exclude pests is not a menace to the permanent agriculture of the country. One of the examples put forth by the Federal Horticultural Board is useful in this connection. The grape Phylloxera is present in American vineyards but has never been known to be destructive on American varieties of grapes. The European vine fell an easy victim to the pest and the vineyards of Europe had to be reconstituted on account of its introduction there. If we are inclined to feel secure in the protection offered by the quarantine let us consider what condition we would be in if some seemingly harmless insect affecting wheat or corn or potatoes did by some means or other gain access to our shores. An insect affecting any one of these crops in the way that Phylloxera affected European grapes would mean a most serious calamity in this country. The efforts of plant breeders and agronomists to build up American agriculture by the production of new and disease resistant varieties may be brought to naught any day because of the accidental introduction of a foreign disease or insect. In many respects it might be better if we would seek out and introduce at once all the known diseases and pests of wheat and corn so we could make a beginning at permanency. It would not be wise, of course, to make a wholesale introduction of these

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[1] Since the above was written the regulations have been amended twice, presumably due to pressure from the outside. The concessions represented in the amendments are not very great.

[2] Secretary Houston under date of March 28, 1919, has addressed an open letter to Mr. Winfred Rolker, of the New York Florists' Club Protesting Committee, explaining the motives back of the order. Interested persons doubtless could obtain a copy of the letter on application to the Secretary. The Secretary does not presume to go back of the authority given him by Congress but those vitally interested might well look up the facts with respect to the Committee hearings on which Congressional action was based for the establishment of the Federal Horticultural Board.

[3] Under the caption, *Service and Regulatory Announcements, January, 1919*, issued March 8, 1919, the Federal Horticultural Board presents some specific cases. The pamphlet, probably, can be secured free on request. It is worth reading.

destroyers but it would seem the part of wisdom to secure an island, say, or set up detention camps or wards in various parts of the country where trained scientists could make investigations to ascertain the injurious effects of various parasites and devise means for their repression.

Persons affected by this quarantine —and who is not?—have a right to inquire whether such work is contemplated; whether more effective means of safeguarding our crops have been conceived or are in contemplation; and they are surely entitled to know not only what measures are to be undertaken but what length of time probably will be required for their accomplishment. If the quarantine is to be lifted in five years or even in ten years it would make a vast difference to men with capital to invest in such a precarious business as that of propagating ornamental plants.

7. The fact that many plants can not be produced satisfactorily in this country is too well known to need more than passing mention. The fruit growers of Western New York realized the importance of "French" stocks for their apple trees when in January, 1918, they passed a resolution condemning in no uncertain words the efforts then being made in Congress to bring about the very thing that is effected in part by quarantine No. 37.

8. Finally there is a vast number of good American democrats who "view with increasing alarm" this constant tendency to concentrate power in Washington. They resent the paternalistic attitude of the government in this and other matters. They adhere to the idea that specially chosen representatives should represent and they are just now questioning whether they have not made a mistake in turning over such an important matter to persons who do not seem to feel any obligation to do the will of the people.

American Rose Annual for 1919.

Published by the American Rose Society and edited by J. Horace McFarland. It is a cloth bound book of 184 pages and has a colored frontispiece and ten full page illustrations. The price is $2.00 which includes annual membership. Additional copies supplied to members only at $1.00 each postpaid. Address E. A. White, Secretary, Ithaca, N. Y.

The fact that this work is edited by J. Horace McFarland is perhaps sufficient guarantee of its high character and value. The further fact that it is printed by the J. Horace McFarland Co. is a guarantee of its typographical excellence.

In addition to the usual society records and the report of the annual meeting, etc., this volume contains much useful information about Roses. It can only be secured by a membership in the society.

Can anyone give us positive facts from actual tests covering a period of years of the effect of age on Gladiolus corms?

Local Flower Shows—An Experience at Lansing, Mich.

BY L. W. HOISINGTON.

A couple of years ago a friend, who was growing Gladioli, and I, were talking on the subject of getting the people better acquainted with Gladioli and we thought that perhaps, if possible, we would try and get some place where we could put them on exhibition. The matter was incidentally brought to the attention of a representative of The Capital National Bank and he asked if the lobby of their bank would not be a suitable place, for he saw a chance to get people interested not only in flowers but in the bank as well. So a little more planning and some soliciting got together a very creditable exhibit, but owing to the lack of experience the staging was not of the best, for tables were used and they did not fill the place in some instances or more than filled it in others, but with the help of local florists the general effect was so good that it attracted people by the hundreds, and the bank said, "We will have to make this an annual affair." So as the season of 1918 approached, the bank called in representative growers and in arranging for the year's exhibit a series of steps were planned that would just fill spaces between windows and the result was very gratifying, as it allowed each individual vase to be seen at its best.

The first year the bank were a little skeptical as to how many flowers would be on exhibition and sent out of town for some "to fill in with," but they were hardly needed and at the last show only local grown Gladioli were shown.

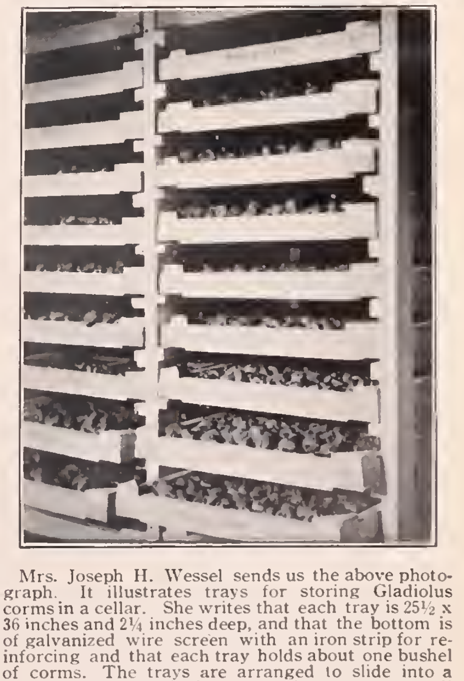
Both years the florists have taken great interest and have furnished ferns and other decorative plants for railings and other places where it was impracticable to put flowers and it has added materially to the effect. There have been no prizes offered whatsoever, each one getting his reward according to his effort in increased sale of flowers and bulbs. The bank seems to appreciate the good they have derived from the shows, for they have an announcement of the third annual show in the retail list of one of the local growers.

The bank have furnished each exhibitor, who had previously announced his intention to exhibit, with a card on which was printed his name and a space left blank in which to write the name of the variety and at the second show they had some very neat cards with a list of all the prominent varieties that were liable to be on exhibition which were handed to visitors, that they might check their favorites, and people made a study of different varieties and learned more in half an hour than they could possibly get from a printed list.

A grower from a neighboring town informs me that he intends to get the use of a down town show window to get the thing started in his town. There are different ways that will suggest themselves to you even if your bank has not the space or does not feel that they want a little clean *muss* and some inconvenience that would eventually bring them many new customers.

We tried a week for the first show and cut this down to four days for the second one which we found to be long enough. At the end of the first show we gave away all the flowers, but last year we made last day Red Cross Day, the growers all donating extra flowers for the occasion, and after 8 p. m. we sold the flowers, the whole netting $171.67. Now the needs of the Red Cross are not so urgent so that perhaps the best of the flowers would cheer hospital patients or "shut ins" in your town.

Taken as a whole the Flower Show is good in many ways, it brings out the best flowers where they can be seen and appreciated by flower lovers generally, it creates more sentiment for flowers, it popularizes flowers in a locality, it gives an opportunity to compare varieties and to get acquainted, as it were, with such varieties as suit their fancy and places them in a better way to obtain such varieties as they wish for their next year's garden. The growers have an opportunity to see and compare flowers with their neighbors, and to see what flowers are taking best with the public, and last but not least, they advertise their wares in a way that would be impossible in any other way. And to the people who so liberally throw open their doors to such an enterprise, as our bank has done, they create a friendly feeling with the public for the interest they take, to be of benefit to the community, that people will be attracted their way and they will surely reap their reward in extended business.



Mrs. Joseph H. Wessel sends us the above photograph. It illustrates trays for storing Gladiolus corms in a cellar. She writes that each tray is 25½ x 36 inches and 2¼ inches deep, and that the bottom is of galvanized wire screen with an iron strip for reinforcing and that each tray holds about one bushel of corms. The trays are arranged to slide into a rack as shown and give convenient access at all times. As a method of storage which is economical of space, this arrangement is hard to beat. It will be noted in this connection that on the corner of each tray is a triangular block so that the trays may be stacked up in the field one above the other.

Ordinary window screen wire is used for the bottom of the trays; ⅛ in. galvanized screen would probably be better.

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Vol. VI June, 1919 No. 6

> "*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

No Time Limit on Subscription Clubbing Offer.

Our appeal for an increased number of subscribers in this column last month, and as set forth in circular letter to subscribers, has no time limitation. Some of our good friends have written us asking if there was a time limit to securing of clubs of subscribers. We had not thought of limiting the time, and certainly the special clubbing offer will remain open at the special rate during the present year.

While many of our friends have done more than their share to help along the lines suggested; yet there are others who should be able to assist also. The good work which is being done by THE FLOWER GROWER deserves assistance and our subscription list deserves to be much larger than it is now. We trust that all readers will bear this matter in mind continually during the next few months and secure new subscribers for us at every opportunity.

MADISON COOPER.

There is considerable complaint from growers in this country that those who ordered stock from Holland have been unable to get deliveries on same. Stock ordered last fall at comparatively low prices was naturally worth considerable more money when delivered in this country this spring, and there is strong intimation that some of the receivers sold the stock at higher prices and reported to their original customers that they could not make deliveries, making one excuse or another for such failure to deliver.

Any concern resorting to such practice is not entitled to future consideration, and customers who have been disappointed in this way will remember their experience. The reputation made by Holland grown stock and by the methods of some Holland growers during the past few years whether through force of circumstances or lack of proper motives in a business way, has resulted in a situation which may make it somewhat difficult for the Hollanders to do business in this country in future years.

One case which has come to our attention was the ordering of stock of the variety, *Prince of Wales*, at comparatively low price. This was actually billed to the customer and after some little correspondence, the excuse was made that it was accidentally sent to Canada with some other stock and they could not get it returned. *Prince of Wales* has been selling for about double the price during the latter part of the winter that it did in the fall and earlier. The reader is allowed to draw his own conclusions.

Following the unusually mild and pleasant winter we are now getting our pay for it in the form of an exceptionally rainy time during the usual planting season. Just how wide-spread these conditions are we do not know, but up here in Northern New York the oldest residents do not remember such a difficult spring to get planting done. At this writing, May 26th, very little grain has been put into the ground and as it is too late in the season to assure a reasonable crop, many farmers will not plant half their usual acreage. Gladiolus growers so far as we have heard from, report that they have had great difficulty in getting their planting done, especially those who have considerable acreage to handle. Those who have sandy land have the advantage this year over those with clay land, as it is not necessary to wait long after a rain for the ground to dry off. If the cool and wet spring is followed by a dry and hot summer, as is likely to even matters up, the growing season for all sorts of crops is not likely to be a very favorable one.

Some very unsatisfactory results and some disagreeable correspondence has resulted from inexperienced growers of Gladioli sending lots of Gladiolus corms that they had for sale without first having fully come to an understanding with the would-be purchaser. We want to caution all Gladiolus growers against sending stock except after suitable preliminary correspondence and coming to an understanding with the prospective buyer on the question of price, terms and sizes. If samples are sent otherwise, they should be only the merest samples of a few bulbs to show the general quality. Comparatively large quantities sent as samples without first coming to terms is likely to result in misunderstanding and loss.

Apropos of the article by Prof. Reddick on page 54, we have just in hand a protest against Quarantine Regulation No. 37 in the form of a printed circular from A. P. Saunders, Secretary American Peony Society. This protest is signed by the officers and directors of the A. P. S. and as the representative body of Peony growers in America their protest certainly should carry much weight. This protest is submitted to members of the society with the recommendation that they should endorse it and send it with such additional memoranda as they wish, to their senators and congressmen.

When the warm and humid days come in May or June with their languor-producing effects on animal life which includes the human race, we should remember that these tropical conditions are sent to our northern clime to hurry the growth of vegetation so that animal life may be sustained, not only during the growing season, but during the long months of winter when all vegetation is at a standstill.

We are anxious to secure a short article on the best way to plant and take care of Hyacinths. One of our subscribers wants to know how often they should be dug and reset.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

June Activities.

JUNE with its bewildering array of beauty is with us again, and many of the Peonies, whose growth was watched so carefully last month, are at their best now, and splendidly imposing are the large blooms in the new, rich reds ranging to almost black, and the various shades of pink, cream, blush and white with dots and threads of carmine. Each a favorite until the gaze rests upon the next. What a privilege to gather them in great armfuls resting their heavy heads upon our shoulders.

If we wish to share them with a distant friend, cut while still in bud, wrap in paper and pack so they cannot bruise, and when received place the stems in cool, fresh water, having first cut a small piece from the ends so they can take up water well, and they will open fresh and beautiful. When cutting Peonies leave at least two leaves on the stalk, and when the plants are entirely through flowering do not cut away the foliage. It is important that it be left until late September or October. The seed pods and remains of flowers may be cut so as to leave the plants looking neat and trim and it certainly is surprising how ornamental well kept Peony plants may be during the summer.

The Irises and Roses—ah, June Roses—are also at their best. How we love them and revel in their fragrant beauty, but we cannot linger when every insect foe and seedling weed is, in true Bolshevik fashion, threatening us with dire disaster if we relax our vigilance, and besides, the lure of the Gladiolus is upon us. We feel its call to the field where waving leaves in the long rows are beckoning a welcome to us. Their growth is strong, upright and free from weeds, thanks to our method of ridging and leveling. We suppose that all have a favorite way of planting and weeding, but we have found our way to be so labor saving that we feel we must tell the new beginners and urge a trial in the June plantings.

With the rows furrowed three to five inches deep, according to size of bulb, drop bulbs in and if large size, set them right side up, it will pay to do it. Small ones do not need setting. When row or plot is filled, cover and ridge the soil well up over them. In a few days, when the little weeds make their appearance, go over the ground with a weeder or rake and level the soil destroying the network of weeds. When the Gladiolus sprouts begin to show and the weeds again appear, use the cultivator again in ridging the row. Weeds are so persistent that it will not be long before it will again be necessary to go through with the leveling process. This may be done until the leaves are five or six inches high as they are tough and will bend without breaking. By this method thousands of weeds are destroyed without hand work, very few survive and the occasional one that does may be easily pulled out. This kind of cultivation is not only good weed prevention but keeps the moisture from escaping. The bulblets should be treated in the same manner and be raked crosswise with a garden rake both to kill the weeds and to break up the soil between the plants.

We anticipate the pleasure of seeing many new faces in our test garden this year, as we have quite a number of choice seedlings sent us by their originators. These will be carefully grown and comparisons made with standard as well as newer varieties, and it will be a pleasure to report on them as far as possible through the columns of THE FLOWER GROWER.

Don't forget that June is the time to plant for September bloom, and plant lavishly for there is nothing more beautiful in the fall than the Gladiolus bloom. The cool autumn days give the flowers a delicate tinting unknown in mid-summer.

MRS. A. H. AUSTIN.

Fifty Years Acquaintance with the Gladiolus.

[*Written expressly for The Flower Grower.*]

BY HENRY C. ECKERT.

(*Continued from May issue.*)

In the period of 1881 to 1891, there were introduced two hybrid classes, one was the Lemoine, a new creation of Victor Lemoine, of Nancy, France; the other was the Childsi, it was originated by crossing the species Saundersi on Gandavensis varieties, by Max Leichtlin of Baden-Baden, Germany, he selling the entire stock to an America firm. I obtained several named kinds of these, as soon as they were offered for sale. The flowers were large and very beautiful, but they were short lived, in a few years I lost them all. This refers only to the first productions, which Mr. Childs himself has, with a few exceptions, dropped from his catalogues. Among the later introductions are some varieties equal to the best. Of the other hybrid Lemoini which was introduced at about the same period, I did not buy any named varieties at that time, but a few years later I received a good many in a lot of several hundred mixed varieties. All of them were rather small in plant and flower. The shape of the flower was more hooded than the Gandavensis and the plants were healthy and increased rapidly.

In the year 1888 I received a catalogue from Antoine Roozen & Son, Overveen, Holland, which surprised me by its wonderful descriptions of Lemoine's new race of Gladioli, Nanceianus, claiming that some of them, particularly the one named *President Carnot*, have flowers from seven to eight inches in diameter, but as the prices were extremely high, $4.00 each, I did not order any of these hybrids. I imported some of his Gandavensis varieties, and not one of them turned out to be anything extra. Of their wonderful Nanceianus listed in that catalogue, not one of them is now found in the trade lists. They were short lived, lacking a vigorous constitution to withstand our changeable climate. This also has no reference to the later introductions, which were found to be among the grandest and most vigorous Gladioli in commerce. As an example, *Mrs. Francis King*, introduced by Mr. Coblentz of Ohio, has a strong, vigorous constitution, with immense large flowers, and is now one of the commercial varieties, with *America*, the two great leaders in the American cut flower trade.

Up to 1890 nearly all Gladiolus varieties introduced had a few years of popularity then they passed away to give room for new creations as they lacked the power to reproduce themselves commercially.

[*To be Continued.*]

Poppies as Memorials.

[*Continued from page 53.*]

garden will make rapid growth and when it is warm enough to plant the seedlings out of doors, by not removing from the shell (but merely cracking lightly so as to permit the roots to grow through) the plants may be set into the ground without being disturbed in their growth. The plants require little care though during protracted dry weather they should be kept moist. When once well established the hardy Poppy increases in size and the flowers gain in beauty until they outrival even the gay Tulips in dazzling splendor.

The memorial Poppy has come to stay and will henceforth flaunt its flaming flowers like triumphant banners in memory of our soldier dead and constantly remind us that—

> " Their honor lives
> Their love endures
> Their noble death
> The right assures."
>
> —*Percival Allen.*

The editor has endeavored to secure information on the use of charcoal in connection with bulb planting, but has failed. Standard books on horticulture say nothing. The suggestion came from a well-known and experienced Gladiolus grower. We are trying out the scheme this year because we had the charcoal available. We have been using this in our 6 in. wide double row flat bottom trench at the rate of a 12 quart pailful to about 75 ft. of row, scattered as evenly as possible and dug into and mixed with the soil of the bottom of the trench to the depth of about an inch. If soot is a good fertilizer we believe charcoal is, and surely charcoal must be a purifier and possibly will prevent disease to some extent.

WAYSIDE RAMBLINGS

CRATES FOR STORING GLADIOLI.

In a recent contribution our friend, Mrs. Austin, describes a crate used for storing Gladiolus bulbs. I think I have a slight improvement on hers, the result partly of accident. I bought from a seed grower some crates about 3 ft. by 4 ft. The bottom was of lath set about ¼ inch apart. The ends of the crate were 4 inches high and the sides 3 inches. A three inch strip, standing on edge, was nailed diagonally across from about 16 inches from the end to the same distance from the other end, serving the double purpose of stiffening the crate laterally and as a central support for the lath.

These crates were inconveniently wide; so we cut them in two lengthwise. This gave two crates with only one side but, instead of a 3 inch board, I used two lath, one being too weak, nailing them, *together*, to the ends and the end of the diagonal. A lath was nailed across the bottom at the ends and this not only helped hold the lath but gave a little lift. There was still not enough room on the low side (the width of one lath) and so I nailed a one inch strip on top of each end. These strips run the whole length of the end but would have been still better, for ventilation, if used, like Mrs. Austin's, at the corners only. A similar strip is nailed on the top of the middle cross partition. These half crates can be piled up in double tiers, back to back, and there is room to put the hand in and get out bulbs without taking down the pile. The crate might further be improved by using an inch strip across the bottom at ends instead of a lath. It is understood that the low side of the crate is only one lath high but two laths thick.

Geo. S. Woodruff.

RECEPTACLE FOR CUT GLADIOLI.

For the opening spikes of Gladioli after cutting, I make use of poultry netting in the bottom of my buckets or receptacles and as a cover. The piece of netting in the bottom of the bucket should be doubled and folded so as to stand up an inch or two from the bottom. The piece for the top or cover is cut larger than the bucket and wired loosely to a ring of heavy wire. The cover is then forced down over the top of the bucket and takes a shape that will hold itself in position. The spikes are placed through the meshes of the cover and they find a hole in the bottom meshes that holds them upright. One hundred pound metal lead cans discarded by painters make fine buckets for this purpose.

A large ball of old poultry netting can be used in the body of a jardiniere and this aids greatly in keeping Dahlias and other flowers in proper arrangement.

A. C. Perrin.

COLOR CLASS DETERMINATION AT FLOWER SHOWS.

The letter from H. E. Meader under the above heading in the January number clearly points to the necessity of a color classification of an up-to-date selection of Gladiolus varieties. The Sweet Pea Societies some years ago found themselves in the same unsatisfactory condition in the conduct of their shows and now publish a list in their annual publications, together with a list of "Too-Much-Alike" varieties. The latter list is not so much wanted in connection with Gladioli as the former. Both are framed as much for the guidance of exhibitors as to save the time of those responsible for the success of the various shows. I do not agree with Mr. Meader that it is a question for the judges. Rule 8 of the General Rules for Horticultural Exhibitions is as follows:

> "Flower Show Committees are strongly advised to see that all exhibits are in accordance with the conditions of their schedule before they are submitted to the judges. It is too much to expect the judges to find time to count up every item and verify every exhibit with the schedule. As a general rule they have too short a time allowed them in which to perform the actual judging with the care and thoroughness with which they desire to perform their duties."

Smilax.

SHIPPING CUT GLADIOLI.

In a recent number of your journal some one asked about boxes for shipping Gladioli. I have found it a very satisfactory economy to purchase from the tobacconists and country stores, the cartons in which packages of tobacco are shipped. Sometimes they are given away, but they are never sold for more than five cents. They are strong and capacious, about 30x15 x15, and one takes care of a hundred unopened spikes. When the blooms to be shipped are open, I telescope the open ends of two cartons and sew the sides together, after considerable overlapping, to give strength in the center. Then cut along the edges of the side to be the top of the package, and after scoring across each end, several inches in, to make a hinge, I cut across through the center of the top, and have two doors through which the stems are laid in the lengthened box. One hundred and fifty or two hundred open blooms can thus be taken care of. I sometimes stitch with twine through the sides, and make a network upon which a second tier are laid to prevent crushing. There is no odor.

W. G. Nyce.

"CLUB-FOOTED" GLADIOLUS.

I have observed this peculiarity occasionally among the *Chicago White*, and I believe it is a peculiarity of the variety, and not the soil or treatment.

Willis E. Fryer.

EARLY AND LATE PLANTING OF GLADIOLI.

In the April issue of The Flower Grower, Mr. Fryer states as follows:

> If a large bulb is planted early in April, and one of the same size and variety is planted the middle of June there will not be so much difference in the time of blooming as you naturally imagine there would. When planted early the bulbs may lay dormant for nearly a month should the weather be cool, but if planted in June they start into growth at once. Last season we thought our early planted bulbs would never start, but on examination we found them in about the same condition as when planted. When one has a large amount to plant it is necessary to begin early, but I do not believe one will get much earlier blooms by doing so. Small bulbs are last to bloom and this gives one a succession of blooms.

In this part of the world (Missouri) planting should be done not later than early April, so they can get established before the onslaught of summer drought, which is liable to come in May. A later planted one may bloom, but, if much later, will not give increase, nor so tall or long a spike.

I think Mr. Fryer will find, even in his country, that a corm planted in April or early May will give vastly better increase than one planted middle of June.

B. C. Auten.

Note by the Editor—

We are inclined to agree with Mr. Auten that early planting makes for greatest increase and biggest flowers, but Mr. Fryer is, of course, quite right that bulbs lay dormant for a long time when the weather is cold in the spring; but they are really not altogether dormant as they absorb moisture and often make fine root growth without throwing sprouts above ground. As soon as the frost is out of the ground in the spring the ground is warm enough usually to start root growth before the foliage sprouts start.

There is no doubt but that greatest increase in bulblets, largest and best bloom and the most perfect and mature new corms are formed from early planted stock.

We have planted corms as late as June and in many cases the new corm is not as large as the old one and of very inferior quality and few or no bulblets are formed.

WEB OR CLUB-FOOTED GLADIOLUS BUDS.

I note that Mr. Gibbs heavily fertilized his two varieties with liquid manure. It is just possible that this caused the deformity noted in his article. I know that too heavy or too frequent applications of liquid manure or both to Chrysanthemums will cause deformed foliage and buds, particularly if the plant be weak or the applications made during a drought.

Chas. E. F. Gersdorff.

DESTROYING APHIS ON SWEET PEAS.

I make a strong suds of Ivory soap, boiling the soap in a tin dish until dissolved and then diluting with cold water until about the color of skim milk. This liquid solution syringed on the plants once or twice a week will destroy the Aphis.

G. W. J. Bridger.

GLADIOLUS TOPS COMPOST FOR GROWING SWEET PEAS.

I notice in the January issue of THE FLOWER GROWER the article on finding a use for the Gladiolus tops. I have thrown them into a pile with cabbage leaves and stalks, onion tops, etc., in the fall and used it in the Sweet Pea trenches in the spring. I dig a trench 30 inches or so deep and 18 inches wide, place a layer of tops about four inches and then a layer of well rotted manure, continuing until the trench is filled level with the ground. This is also tramped down so it will not settle too much. I find it holds the moisture during the summer, so that during a drought I am able to cut Sweet Peas without doing any watering whatever. I forgot to mention above that I only use four or five inches of soil on the top and leave a hollow down the center in which to plant the peas, gradually filling it in as they grow. I sprout the Peas before planting by placing between layers of newspaper in a flat with a little damp earth above and below the paper. The past season I cut flowers the last week in June and the last the second week in October.

G. W. J. BRIDGER.

NAMING GLADIOLI.

I would like to enter a protest against the practice of naming varieties of flowers after persons with long names. These names not only prove unwieldy in catalog compiling, but also take up costly space in advertising. *Captain Asher Carter Baker*, for instance, contains 23 letters. Why not have made it simply "Capt. Baker?"

Some names seem to me to be inappropriate to the variety: *Dr. Frederick I. V. Skiff* seems rather too impressive for a pretty flesh pink! And then there is *Lillian Harris Coffin*. A common enough name, perhaps, and admissible for the lady; but what a name for a flower!

I like Mr. Kunderd's method which he, with some pardonable exceptions, uses in naming most of his varieties. Such names as *Rose Glory, Lilywhite, Moonbeam, Lustre, Gold Drop, Firefly*, etc., are not only pleasing and easily remembered and written, but are in some measure descriptive of the particular variety.

Let us have shorter and more appropriate names for these beautiful gifts of nature.

HOWARD M. GILLET.

HIGH PRICE FOR GLADIOLUS CORM.

T. Dabney Marshall in the April issue of THE FLOWER GROWER suggests that $1.50 to $2.00 a corm is a pretty high price.

In paying an extra price for a corm of an extra fine variety, one is not paying the extra price merely for the first year's blooms, but for all the blooms that all the offspring of those corms will yield, forever and forever, a most insignificant price, if their reproduction powers are utilized.

B. C. AUTEN.

Northwestern Peony and Iris Society.

The warm April showers have started new life and animation and have awakened from its long sleep the Peony. As we cast our gaze over the garden, we are enjoyed to see peeping cautiously from the warm, moist soil the tiny shoots as they venture once more from mother earth. What promise they give as from day to day we are enraptured in pleasant anticipation of what we feel confident will be our reward, for they have not failed us in years gone by and why should we doubt their inability to again hold us spell-bound during early June? Here and there we find some tardy fellow who has seemingly enjoyed immensely his winter's nap and is loath to make his appearance, but we know after he has awakened, he will try and redeem himself for his seeming tardiness by gracing his toilet with bloom after his earlier associates have left but a memory of their beauty, and bewitching loveliness. Our association with this flower for years only adds to our admiration and esteem of its many desirable qualities.

In a recent symposium of several hundred varieties of Peonies conducted by the American Peony Society it is interesting to note that on a basis of at least 20 votes the following 12 varieties received the highest vote:

9.7%	*Le Cygne, Solange, Therese.*
9.3%	*Festiva Maxima, Lady A. Duff, La France.*
9.2%	*Mons. Jules Elie, Sarah Bernhardt.*
9.1%	*Baroness Schroeder, Mme. Emile Lemoine.*
9.0%	*Marie Crousse, Milton Hill.*

The following varieties received equally high percentages but owing to the number of votes cast being less than 20, they are eliminated from the list above named:

9.5%	*Elizabeth Barrett Browning.*
9.4%	*Kelways Glorious, Mme. Jules Dessert, Tourangelle.*
9.3%	*Philippe Rivoire.*
9.2%	*La Fee, Martha Bulloch, Mary Woodbury Shaylor, Jubilee, Standard Bearer, Walter Faxon.*
9.1%	*La Lorraine, Mignon.*
9.0%	*Elwood Pleas, Francis Willard.*

We miss from the above high percentage, *Enchantresse, Georgiana Shaylor, Karl Rosenfield, Rosa Bonheur, Mary Brand* and many others, but the matter of personal charm does not appeal to all alike, and then again different locations, unlike climatic conditions, variation in soils and cultural treatment and various other contributing influences all have a tendency to produce varying results with like varieties. It has been suggested that another similar rating be attempted in a couple of years, which will doubtless bring a few more of the better varieties into the first rank. There is no question but that the results obtained from this rating are very gratifying and only tend to establish more firmly the fact that there are a great many varieties in commerce that should be dispensed with entirely.

I desire to urge upon those having the Peony questionaires sent them last year and who did not get an opportunity to fill them out, the importance of completing them this year, if possible, and sending them to me as early after the blooming season is over as convenient. If you desire additional copies please advise and I will gladly mail them. Any reader having a named collection of varieties who is interested will be supplied with copies of the questionaire upon application. I am especially anxious to get as many replies as possible so that we can complete a summary of results and present to our readers.

W. F. CHRISTMAN, Sec'y.

Meader Buys Lilywhite.

I want to report to you an item of considerable interest to the trade: the sale of the principal stock of our new early forcing all white Gladiolus *Lilywhite* (please note the name is spelled with only one capital letter, or all one word, as the flower is practically a lily white.)

We have the very best of commendation in reports of its value. Up to date, there has been no spotless all white Gladioli of the quality required by florists for an early forcing purpose. *Lilywhite* is very early, forcing perfectly, of ideal shape and type of spike and individual bloom. It is also a rapid propagator, making an ideal florists' all white Gladioli for which the florists have long been in need of.

Under the arrangements of the sale, four-fifths of all sizes of the bulbs have been purchased by Mr. H. E. Meader, of Dover, N. H., who is at present vice-president of the American Gladiolus Society. Mr. Meader is himself a progressive florist and having tested the variety for several years is very enthusiastic over it from the standpoint of the florist. *Lilywhite* will probably be offered to the trade, as well as sold at retail, the coming season, while Mr. Kunderd, the originator, is allowed to sell only at retail for the first three years from time of the sale. The price which Mr. Meader paid for that portion of the stock which he has secured is $3,000. Considering that the shipment amounted to less than two full barrels, this is the highest yet paid for Gladioli. There have been higher prices paid for Gladiolus stock than in this instance, but the quantity of bulbs was very much larger and the purchaser secured practically the entire stock, whereas in this case the originator reserves one-fifth of the stock.

A. E. KUNDERD.

The special offer of H. E. Meader, Dover, N. H., which appeared in the April issue of THE FLOWER GROWER, we understand is still in force and those who are interested in helping the American Gladiolus Society and being connected with this progressive organization should improve this opportunity of joining.

The Glad Philosopher's Musings.

" This same flower that smiles to-day,
To-morrow will be dying.—*Herrick*.

How symbolic of human life is the passing of a flower. It is told as a myth that the Roses once appealed to Zeus and demanded to be told why it was, that being so fair, yet they were so short-lived. He replied, " It is because only in your passing you are fair." And so in our all too brief span of human life, the ever changing metamorphosis gives enough variety to make our living attractive, and dispels the monotony of a mere existence such as characterizes inorganic beings.

A beautiful child and a beautiful flower are two of God's most wonderful masterpieces.

Charm is a quality that cannot be bought, but it may be easily acquired. The simplest garden may have it, and it may be impossible in a more pretentious one.

Sending flowers to your friends while living, instead of waiting for them to die, has a two-fold advantage: they can be appreciated better by the recipient, and the happy occasion can be renewed oftener.

In the great Rose family, embracing about 75 genera and over 1200 species, there is not known to be a noxious flower or a poisonous fruit, and this family gives bountifully of its fruits for the sustenance of mankind.

The ancient Greeks used to plant garlic in close proximity to the roots of their Rose bushes in the belief that it would give the Roses sweeter perfume. Had the ancient Greeks only known of the fragrant limberger cheese !

" I didn't have any luck at all raising Gladioli last year," complained a lady recently to the Glad Philosopher. On being asked how she had planted them, she replied, " I took a broom handle and poked holes in the ground and shoved the bulbs down and filled the holes up with dirt." Observing me smile, she continued, " maybe I didn't plant them right." Maybe she did not !

THE GLAD PHILOSOPHER.

A subscriber asks about Daffodils, varieties *Victoria* and *Emperor*. He says they are inclined to come blind instead of flowering each year. Has tried leaving them in the ground all winter and digging them and replanting, but both methods seem to give about the same result. We suggested that perhaps the soil is not sufficiently rich to produce strong blooming bulbs. Daffodils ought to be easy to naturalize to most any surroundings and very little trouble is usually experienced. Can any one offer further suggestions?

Potash.

BY BERTHA BERBERT-HAMMOND.

[*Written expressly for The Flower Grower.*]

The shortage of potash which was so keenly felt by agriculturists last year, promises to continue this spring, and to make the situation worse, in the wake of this acute shortage there has appeared in the markets brands of commercial fertilizers that are far below the standard. A product recently seized by inspectors was found to be not only adulterated and mis-branded but also short in weight. To check more effectively such flagrant violations, in some states (notably in Maine) acts have just been introduced for the " better protection against adulterated, mis-branded or inferior commercial fertilizers " being manufactured or distributed.

There is little hope of any foreign potash reaching these shores this spring. By the provisions of " The Trading with the Enemy Act," approved in 1917, it is still unlawful for any person in the U. S. to trade with Germany, the greatest source of the supply of potash. The War Trade Board, to which the President delegated the authority to issue licenses to permit the entry of commodities to the U. S., has agreed to prohibit the importation of potash from Germany, from which country we received before the war nearly 260,000 tons of potash annually. No potash will be allowed to leave the Alsatian fields, now under French control, as it is sorely needed to restore the fertility of the thousands of acres of devasted land in France, or those fields that had deteriorated through the years of neglect and lack of fertilizer, as during the war many of the chemicals needed for the purpose of fertilizing were used for the manufacture of munitions.

In this country some relief from the shortage will come from the potash industry established some years ago in Nebraska, the growth of which has been comparatively rapid during the past three years. Nebraska potash, which is produced from the evaporation of brines from lakes and sand below the lakebeds, contains no harmful borax, but large proportions of carbonates and sulphates. To produce *one ton* of this potash requires one and one-half tons of coal for making the steam for power and evaporating.

The largest potash producing plant in the U. S. is located at Hoffland and cost nearly a million and a half dollars for the power houses, and buildings for the evaporation, drying, grinding and storing of the product.

During the war when the scarcity of potash was most acute, one chemist in seeking for sources of the much needed potash found that the clouds of dense smoke emitted from the chimneys of cement kilns, blast furnaces and factories contained quantities of potash. Means to obtain this potash were found, but the cost of doing it is prohibitive. Until some cheap process of "knocking down smoke" (as it is commonly called) is discovered, potash obtained from smoke is too expensive to be used for fertilizing.

Fortunate, indeed, is the gardener who by applying the principles of conservation to the compost heap and to all other available sources has accumulated enough fertilizing stock to keep up the fertility of his land by merely supplementing with the scarce and costly commercial fertilizers. Surely never before has it been so necessary or so profitable to save, and use carefully all materials containing the elements that will provide the proper nourishment for plants during their growing season.

We are indebted to R. S. Mackintosh, President of the Minnesota State Horticultural Society, for the above photograph. It shows mostly Gladioli, but the lower right hand corner is ever-bearing stawberries, and there are tomatoes and sun-flowers and sweet corn and a lot of other things in the photograph. The sign post says "Please protect this liberty garden." The entire setting of the photograph is extremely artistic and rural.

Owing to bad weather conditions planting has been so backward that it is doubtful if the best bloom will be in condition for exhibition as usual in time for the annual A. G. S. flower show in August.

The Science of Flower-Gathering.

BY WILLARD N. CLUTE in *Gardeners' Chronicle.*

MOST PEOPLE fancy that they know as much about gathering flowers as anybody else, but the results they obtain often fail to justify the assumption. There is a great deal more to flower-gathering than is apparent in the mere picking of the blossoms. Much depends upon a proper selection of the flowers. It is best to avoid those that are fully spread and to select the newly opened blossoms or even the buds that are about to open. A careful selection will often make a difference of several days in the length of time a bouquet will remain fresh. In the case of plants like the Gladiolus and Iris, which continue to produce flowers when carried into the house, one should also select his specimens with an eye to the number of unopened buds in the spike.

Occasionally it may be difficult to distinguish fresh flowers from older ones, but they may generally be picked out by a slightly deeper color, and by parts not fully spread. The condition of the "essential organs"—the stamens and pistils—will often be of value. If the anthers at the top of the stamens have opened and shed their pollen, or if the pistils have begun to wither, it is usually a sign that the flower is on the decline, for the flower exists solely to ensure pollination and when this is accomplished it soon fades. If pollination is hindered or prevented, the life of the blossom may often be prolonged. In some cases, snipping out the pistils with a sharp pair of scissors as soon as the flower expands, is sufficient to accomplish this.

There is an immense difference in the time that different species remain open. A large number open their flowers for a single day, or night, and some for a still shorter time. Many of the Rock Roses (*Helianthemum*) open their flowers in the early morning and by noon the petals are found strewing the ground. The little plant know as Flower-of-an-hour, a species related to our Hollyhocks and Mallows, has a still shorter period of bloom and one is inclined to wonder why the flower takes the trouble to make a handsome corolla when it falls so soon. Such evanescent flowers are either pollinated by the wind, self-pollinated or, if cross-pollinated by insects, are adapted to the visits of many different kinds of insects.

The flowers that remain open for longer periods are usually flowers that are pollinated by a few large insects. Frequently, in order to ensure cross-pollination, the stamens and pistils ripen at different times and the flower lasts until the whole process is completed—often several days. The flowers of the Orchids seem to be the limit in this respect, some specimens remaining in good condition for six weeks or more if the right pollinating insect does not happen to visit them. In one great group of plants, containing the Asters, Sunflowers, Rudbeckias and the like, what are commonly called "flowers," are really flower-clusters, as anybody may discover for himself if he will examine the centers of such flowers with a simple lens. In these the outer or ray flowers remain spread until all the central or disk flowers have bloomed. In gathering such flowers one should notice how far the zone of blossoming has progressed across the disk and select his plants accordingly.

Having gathered the flowers, the more important question of how to keep them fresh comes up. In the beginning it may be said that the substances one is often advised to put in the water are without beneficial effects and are often worse than useless. Charcoal in the water in which flowers are standing will absorb any odors of decay that may be given off, but it will not prolong the life of the blossoms. Salt or sugar in the water is always harmful. If at all strong they set up an osmotic action that actually draws the water from the plants. Ammonia water contains considerable nitrogen but it is not in a form that plants can use and is therefore useless. Cool fresh water is still the best thing for cut flowers.

To be kept at their best, flowers should be gathered early in the morning or late in the afternoon and protected from the sun's rays as much as possible. Plants, like animals, are constantly giving off moisture by evaporation and this process should be retarded as much as possible. Leaves evaporate rapidly and if many are left on the stems with the flowers they serve to decrease the water supply.

It is the practice of florists who ship their product, to place the stems in cold water in a cool room for some time before shipping. The mere placing of the stems in water, however, is often not sufficient for if air gets into the tiny tubes in the stem through which the moisture travels, the flowers have difficulty in absorbing further. In growing plants, there is often considerable tension in the water carrying parts of the stem and when the stem is cut the moisture is drawn further up and the air follows. The remedy is to plunge the stems of the cut flowers under water and while still immersed cut off two or three inches. Curiously enough plants do not absorb readily through their roots; in fact, the roots are covered with a waterproof epidermis. Absorption is carried on by means of very small structures on the roots called root-hairs, which are invariably broken off when the roots are pulled from the ground. All roots should therefore be removed when it is desired to keep the flowers fresh.

In the house, cut flowers should be kept in a fairly cool place and away from the sun's rays. The florist keeps his stock in a refrigerator. Much as the plants need sunlight for growth, the flowers are not benefited by being exposed to it. In some species, however, light is necessary to keep the flowers open. These species are such as close their blossoms at nightfall. They may often be kept awake and open by night by exposing them to the rays of some strong artificial light. One may have the white water Lily in full flower for an evening party by gathering the buds very early in the morning and keeping them in the dark all day. As soon as exposed to the light they open as if it were day.

It is scarcely necessary to point out to people of taste that a few flowers properly selected are far better than a much larger number. Often a single blossom in an appropriate vase is superior to any arrangement of a greater number. It is, however, a common fallacy to assume that the larger the bouquet the more valuable it is. This is especially true in gathering wildflowers where the disposition is to gather all the specimens in sight. If the rising generation could be taught to discriminate in their flower picking, flowers past their prime would be left to ripen seeds and there would be less need for the efforts of the various societies for the protection of our native wildflowers.

One of our subscribers wants to secure complete information as to the best annuals to grow for green to use with cut flowers. Cannot some of our subscribers write us quite fully on this subject?

Gladiolus—White Glory.

[*Subject of illustration on front cover page.*]

Originated by A. E. Kunderd, Goshen, Indiana. One of the Ruffled Kunderdi type, and described by Mr. Kunderd in his catalogue as of the exact size and type of Kunderdi *Glory*. Our experience with *White Glory* is that it is a taller grower than the original *Glory* and also that the flowers are better spaced on the stem.

White Glory is really a gorgeous pure white flower with beautiful Iris blue throat markings. It is not only a grand variety, but a good multiplier, and has the strong characteristics common to the Kunderdi strain of being a strong and healthy grower.

There ought to be a greater donation of prizes by Gladiolus growers for the next show of the American Gladiolus Society. There is nothing that does so much to test out new varieties; to bring the Gladiolus prominently before the public; and in every way to further the interests of Gladiolus growers, as the annual flower show. Growers who have not already sent their specification of donations to Secretary A. C. Beal, Ithaca, N. Y., should do so at once.

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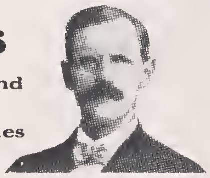

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F. P. WEBBER, - - - Newport, R. I.

Harken all ye Flower Lovers

Especially all of you who have grown Dahlias or tried to grow them.

Tried to grow them is more correct especially if you live in that great middle western section where the mercury climbs to 103 in the shade, just when the Dahlia is making its nice succulent green growth, and then later when after weeks of petting, the flowers are opening nicely, along comes J. Frost and makes them look as if they had been gassed.

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My next Fall's catalog will list six to ten of the best varieties that have proved themselves by this summer's trials and if you would avail yourself of the dahlia knowledge that will be thus gained only through large expense on my part YOU SHOULD SEND YOUR NAME TODAY for insertion on my mailing list.

Raymond M. Champe
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THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

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THE GOLDEN SUNFLOWER.

[*Written expressly for The Flower Grower.*]

BY BERTHA BERBERT-HAMMOND.

A NUMBER OF YEARS ago, an English playwright visiting New York City, popularized the Sunflower to such an extent that there was a veritable Sunflower "craze." Wearing an "Oscar Wilde" (a nickname bestowed upon the gay blossoms during the craze) became "all the rage." This fad, like the "Grecian Bend" and other caprices of fashion, finally passed into oblivion and the Sunflower for years was almost forgotten.

That such an ordinary flower should have been selected as the state flower of Kansas seems odd to some people but it proves that the bright, yellow Sunflower still has a host of admirers, particularly in the state of Kansas,

> " Where the golden Sunflowers grow,
> Where the skies with azure glow."
> On the prairies where the golden Sunflowers grow."
> —*G. L. Arnell.*

There certainly seems to be something so winsome in the up-turned sun-caressed face of an open sunflower that proves irresistible to many. Even while this flower was discredited by fashion, I retained a lurking fondness for it, and surreptitiously planted seeds in the back-ground of the hardy garden, where the unfashionable but cheery flowers would not be apt to offend the most fastidious. This proved a happy choice for here the bright golden blossoms peeping through the shrubbery, with long stems bending gracefully to each passing zephyr, seemed to nod a gladsome greeting and helped to complete a color scheme that was charming. Certainly in the back-ground the Sunflower had found itself.

> Beautiful Sunflower golden thy glow
> Pleasant thy greetings where ever I go
> Out o'er the face of the sweet sun-kissed plain,
> Bending to breezes, nodding to rain.
>
> Over the garden fence, back from the street
> Glowing thy blossoms so graceful and sweet,
> Lighten the longings of all who behold,
> Gorgeous Sunflowers with petals of gold.
> —*A. G. Riddoch.*

One of the many agricultural changes due to war-time conditions was an increase in the raising of Sunflowers for poultry food and for the fertilizing properties contained in the ash obtained by burning of its stalks, stems and leaves.

GLADIOLUS—*FIRE RIBBON.*

(For description see page 67)

In England the value of the Sunflower as a producer of poultry and plant-food was so keenly appreciated that the Department of Food Production issued an appeal for the raising of large crops of Sunflowers, suggesting to those in charge of public parks and gardens, that all unused land not fit for food crops be used to grow them. It was estimated that the stalks, stems, leaves and flower heads (minus the seeds) produced on an acre of land, when burned, would yield about 160 pounds of ash rich in potash. A bushel of the seed when crushed will yield about a gallon of oil similar to olive oil, and which is valuable in the manufacture of fine soaps. The leaves of the plant serve as fodder and the stalks make good fuel. Having demonstrated its worth and *usefulness* in a time of need, the Sunflower merits *continued* recognition and appreciation.

But the Sunflower is not only useful but quite ornamental. A hedge of these tall growing plants will screen an unsightly fence, furnish an effective back ground for other flowers, provide a welcome, cool and shady spot and do much totransform an ugly back-yard. If the flowers are cut before they grow too large, their long stems, lasting properties, and striking contrast of gold and green, make them desirable for use in vases. A large bouquet of the bright showy flowers, in a yellow jardiniere, seems actually to entice sunlight into a dark niche or dingy room.

The following pretty legend indicates that the Sunflower which originated in Peru, the home of the ancient sun-worshiping Incas, is not so humble in origin as some may imagine but may justly lay claim to royal lineage.

> Oh, royal Sunflower, I think I know why
> You always gaze up at the azure blue sky
> Your bright, golden crown ever turned to the sun—
> I know how your life here on earth was begun.
> When the Sun, King of Day, first retired for the night
> Behind the horizon to rest till daylight,
> He hung his gold crown on a horn of the moon.
> But the stars danced so high they shook it off soon,
> And it fell to the earth to be gemmed by the dew.
> Oh! golden Sunflower! that lost crown is you.
> —*Gussie Morrow Gage.*

Notes on Pronunciation of Plant Names.

BY FRANK B. MEYER. (Ohio.)

[*Written expressly for The Flower Grower.*]

IN THESE DAYS the gardener and his art and the nurseryman and his business are becoming more properly appreciated. Therefore, whatever may tend to augment the dignity that they deserve and to increase the respect that is due them should be welcomed. With this thought, even at the risk of seeming to some persons to be pedantic, the writer offers the following notes:

GLADIOLUS*—According to the dictionaries in common use the *i* in this word should sound as in *ice* and should have the accent. But Webster's dictionary recognizes the popular pronunciation that puts the accent on the *o*. The plural would then be *Gladioluses*. Yet, even those persons who use this form in speech should in writing or in print use the form *Gladioli*, which is really the Latin plural. The accent, when the word is spoken should, of course be upon the first *i*, both *i's* being pronounced as in *ice*.

IRIS—This word also, like Gladiolus, has a Latin plural, *irides*, with the *s* usually sounded like *z*. But it, though still admitted by Webster, the Century and the Standard Dictionary, has practically gone out of use in English. Yet, why should one hesitate to speak of *Irises* or to write of them? This anglicized form is given by all the dictionaries.

It is strange that so many growers and dealers are reluctant to refer to more than one Gladiolus or Iris. To state that "we have one of the finest collections of new and rare Peonies, Iris and Gladiolus," is just as bad as it would be to declare that "we have one of the finest collections of Peony and other herbaceous perennial."

NARCISSUS.—Webster gives, as the plural, *Narcissuses* and *Narcissi*. The first of the two forms is the one used by people who dislike the Latin form. (The Standard and the Century, strange to say, seem to omit the plural form. This may be due to the editors' attention being absorbed by telling about the man Narcissus whose name was given to the plant.)

PEONY.—This word in Latin is *Pæonia* and for this reason many persons still write it *Pæony*. But if the word is anglicized to the extent of dropping the final *a* of the Latin it is better to go farther and to leave out the first *a* also. The Standard seems to be the only dictionary that sanctions the pronounciation *Piony* or *Piny*. This is a close approximation to the sound of the word in Latin. It is still rather common, but would better go out of use altogether. The plural presents no difficulty.

The Aspedistra.

I have just read Mrs. Austin's comment on the article which had made its appearance in a previous number of THE FLOWER GROWER on the culture of Aspedistra. She also mentions that she has two plants of this magnificent subject. I chance to own twenty and have found them the most satisfactory of any house plant (either kept in or out in the shade.) If planted in the sun, in time, those dark, glossy, varnished plants will be as worthless as a ripened hill or bunch of corn leaves. Aspedistra *Lurida Variegata* is very pretty but for my part the palm effect of the dark green suits me best. I am trying to plant in water, and to date it has been in the urn a week and shows no sign of decay.

Since the roots multiply on the order of the large flowering Cannas, they can be divided down to one or two and in another year's time will be a fine clump again. We separate no lower than 12.

JESSIE E. LUNDBURG.

Fifty Years Acquaintance with the Gladiolus.

[*Written expressly for The Flower Grower.*]

BY HENRY C. ECKERT.

(*Continued from June issue.*)

As stated in the May issue, the varieties did not increase much up to 1890, and this resulted in a reaction unfavorable to the Gladiolus and the popularity of this beautiful flower was on the wane. This condition brought forth the champions of mixed collections, the most prominent being Mr. H. H. Groff of Canada, and Mr. Arthur Cowee of Berlin, N. Y. I think it was about the year 1902 that I wrote a letter to Mr. Cowee that I did not believe the mixed varieties would make the Gladiolus popular with the professional grower and the public. It took only a few years to demonstrate that I was correct in my opinion.

Two varieties were introduced that revolutionized the cut flower trade in Gladioli. These two were *America*, introduced by Mr. Frank Banning, and *Mrs. Francis King*, by P. O. Coblentz, and the greatest glory is, that they are American productions. A good many new varieties have appeared and disappeared since the advent of these two kinds, which have stood the test of time, and they are just as popular today as they were twelve or more years ago. Many new varieties were introduced during the last fifteen years and the introducer claimed they would supersede *America* and *Mrs. Francis King* as a cut flower for the trade, but up to date none have done so. About the great impulse Gladiolus culture received from these two varieties I will have something to say in my next article.

Please remember that up to 1914 I was an amateur and bought only in small quantities; if other growers have had the same poor experience I had, there would not be much demand for mixed varieties today. The first one hundred corms I received from Matthew Crawford in 1890. It was not an extra fine mixture and had only a few large flowers, the greater number had small flowers. In particular a small Lemoine of cream yellow color with dark blotches in the throat; this variety increased so much that I started pulling it up the second season and by the fourth year they were all pulled out, but of the good ones none were left also. For increasing, that little Lemoine beat anything in the Gladiolus line I ever saw, it had no bulblets, but the old corms divided each season to three or more corms. My next venture was with 100 corms received from Mr. Groff, Canada, and the result was no better; there were some extra fine varieties in this mixture, but they decreased and the poor ones increased so much that after planting them four years I threw the balance away.

[*To be Continued.*]

La France Rose from garden of H. M. Marshall, Mississippi. It had about 100 blooms on it April 15, 1919. Mr. Marshall had an interesting article entitled, "A Rose Garden," in the April, 1918, issue of THE FLOWER GROWER.

Hyacinths from Seed.

A subscriber wants to know about growing Hyacinths from seed. He reports that some Hyacinths which he has planted in pots and boxes have developed large seed pods, and would like to know how to handle the seed for germination. It is suggested that naturally the seed should be planted soon after ripening or attaining full size. Are the seedlings likely to be true color of parents? Doubtless some of our friends with experience in Hyacinths can answer this question fully.

Have you done your share toward the prize list of the A. G. S. for the show in August? The list is not as large as it should be.

**Note by the Editor:*

We must disagree with Mr. Meyer that the accent should be on the letter "i." It should be on the syllable "di" as we understand it, and then the pronunciation would be Gla-dí·o-lus rather than Glad-i-o·lus.

Notes from the Arnold Arboretum.

SUMMER FLOWERING TREES.

Several trees flower in summer here and add to the interest of the Arboretum at a season of the year when there are comparatively few flowers or ripe fruits to be seen. The most important of these trees are the Lindens, a genus of many species, the earliest of which begins to bloom about the middle of June and the last five or six weeks later. Lindens grow best in damp, moist, well-drained soil, and the European species take more kindly to cultivation in this part of the country than the American or Asiatic species, the handsomest Linden trees planted in the neighborhood of Boston being forms of the natural European hybrid to which the name *Tilia vulgaris* belongs. There is a large collection of Lindens in the Arboretum arranged in the meadow on the right-hand side of the Meadow Road in which can now be seen specimens of most of the species and of several forms and varieties, many of the trees being now large enough to flower. The fact that, with the exception of *Tilia japonica* which is the first Linden here to unfold its leaves, none of the Asiatic Lindens now promise to be large or useful trees in this climate is surprising for the trees of eastern Asia usually flourish here, and as a rule are better able to adapt themselves to New England conditions than allied European trees. It is always possible, however, that by crossing some of the Asiatic species with the European species new and valuable forms may be obtained, for hybrids between American and European Lindens, like *Tilia spectabilis* and its variety *Moltkei*, are trees of great beauty and remarkable rapidity of growth.

Sophora Japonica is in spite of its name a Chinese tree which has been cultivated in Japan for more than a thousand years, and as it first reached Europe from that country was long considered a native of Japan. It is a round-headed tree which in Peking, where it has been much planted, has grown to a large size and looks from a distance like an Oak-tree. The leaves and branchlets are dark green, and the small, creamy white, pea-shaped flowers, which open here in August, are produced in great numbers in narrow, erect, terminal clusters. There are also in the collection the form with long pendent branches (var. *pendula*) which rarely flowers, and a young plant of the form with erect branches (var. *pyramidalis*). The form of this tree with flowers tinged with rose color (var. *rosea*) is not in the Arboretum. The Sophoras are on the right-hand side of the Bussey Hill Road, opposite the upper end of the Lilac Group. Near them the Maackias are growing. They also belong to the Pea Family, and the better known *Maackia amurensis* is a native of eastern Siberia; it is a small tree with handsome smooth, reddish-brown, shining bark, dull, deep green, pinnate leaves and short, narrow, erect spikes of small white flowers which open here soon after the middle of July. There is a form of this tree (var. *Buergeri*) in northern Japan which differs from the Siberian tree in the presence of soft down on the lower surface of the leaflets. The species discovered by Wilson in central China, *M. hupehensis*, is growing well in the Arboretum but has not yet flowered.

Oxydendrum arboreum, the Sorrel-tree or Sour Wood, is a native of the southern Appalachian mountain forests and the only tree of the Heath Family which can be grown in this climate, with the exception of the Laurel (*Kalmia latifolia*) and the Rose Bay (*Rhododendron maximum*) which are shrubs at the north and only exceptionally trees in a few favored valleys of the southern mountains. The Sorrel-tree in its native forests grows fifty or sixty feet high, but at the north as it begins to flower abundantly when only a few feet tall, it is not probable that in this climate it will ever attain a considerable size. It is well worth growing, however, for its bright green shining leaves which have a pleasant acidulous flavor and in autumn turn bright scarlet, for its white Andromeda-like flowers erect on the branches of spreading or slightly drooping terminal clusters, and for its pale fruits which in the autumn are conspicuous among the brilliant leaves.—*National Nurseryman.*

I. S. Hendrickson's List of Twenty-five Best Gladioli.

In a very interesting article on Gladioli in the *Journal* of the International Garden Club for December, 1918, I. S. Hendrickson gives his selection of 25 best varieties which we are pleased to print herewith together with his descriptions thereof. It is not often that a grower of Mr. Hendrickson's long experience takes time and has the courage to select a list of what he considers the best varieties and, therefore, we are especially pleased to present this list with his descriptions and notes on same:

Alice Tiplady—Large flower, beautiful orange saffron color.

America—Large flower, flesh pink, beautiful.

Attraction—Deep, dark rich crimson, with a very conspicuous large pure white center and throat. A most beautiful and attractive sort.

Baron Hulot—Rich deep color of an indigo shade.

Cardinal—Perfect flower and spike, very large and the brightest, clearest and most intense cardinal-scarlet yet seen. Very rich and showy.

Dawn (Groff's)—Strong, vigorous grower. Flowers salmon, shading to light; claret stain on lower petals.

Desdemone—Immense flowers of ashy-rose color, striped violet; large dark red blotch edged with ivory-white.

Empress of India—Rich dark maroon, almost black. A rare color.

Evelyn Kirtland—The flowers of strong substance, are a beautiful shade of rosy-pink, darker at the edges, fading to shell-pink at the center with brilliant scarlet blotches on lower petals; the entire flower showing a glistening, sparkling lustre. Very tall spike. Extra fine form and color.

Fascinator—Splendid large flowers of salmon-pink tinted with flames of carmine; throat blush with carmine lake pencilings; long well filled spike.

Fireking—Long graceful spikes, showing half a dozen immense blooms open at the same time. Color, intense fire-scarlet. More brilliant than *Brenchleyensis*, *Cardinal*, *Mrs. F. King* or any other variety. Will become the leading cut flower variety of its color.

Florence—Very large flower, bright lilac, large white center. Splendid.

Glory—Each flower petal is exquisitely ruffled and fluted. Stalks very robust and produce from eight to twelve massive beautiful flowers, which expand wide open and are delicate cream pink with a neat crimson stripe.

Halley—The predominating color of these flowers is delicate salmon-pink with a slight roseate tinge, though the lower petals bear a creamy blotch with a stripe of bright red through the center, the whole producing a delightful effect.

La Luna—The large heavy buds open as pale yellow, changing to nearly white when expanded.

Ligionnaire—A splendid shade of cameo pink with crimson blotch edged with pale yellow. Strong spike of well set flowers.

Mary Fennell—Beautiful deep lavender flowers on a tall slender spike. Lower petals pencilled with primrose-yellow.

Mrs. F. King—Light scarlet of pleasing shade.

Mrs. F. Pendleton—The flowers are very large, well expanded, of a lovely flushed salmon-pink, with brilliant carmine, or deep blood-red blotches in the throat, presenting a vivid contrast of orchid-like attractiveness. It is of the Lemoinei type in form and color effect, with a Gandavensis stem, so that it takes up water freely and opens up perfectly nearly every flower after being cut and placed in water.

Niagara—In color the flowers are a delightful cream shade with the two lower petals or segments blending to canary-yellow. The throat is splashed with carmine, and the lower ends of the outside petals are also blushed with carmine.

Peace—Flowers are large, of good form, correctly placed on a heavy, straight spike. Beautiful white, with pale lilac feathering on inferior petals.

Schwaben—Delicate pale yellow, dark blotch in center.

Sulphur King—This is one of the most valuable yellow varieties ever produced. It produces a very long spike of the clearest sulphur-yellow flowers.

Scribe—A beautiful, large well-opened flower and an enormus spike. Color like the fine old *Eugene Scribe*, tinted white, freely striped carmine.

Wild Rose—A remarkable variety and one that will gain in prestige as it becomes known, for it ranks with the very best. Color, very bright rose or blush tint, exceedingly delicate and pretty, and needs only to be seen to be appreciated. In its particular color it stands alone. Exceedingly fine for forcing under glass.

An artistic grouping of Gladioli. The dark one is *Charlemagne*, the light *Pink Perfection*.
From the garden of T. Dabney Marshall, Mississippi. Mr. Marshall's article entitled, "A Roseless Garden" appeared in the February, 1918, issue of THE FLOWER GROWER.

A Long Lilac Season.

Beginning with the Chinese Syringa pubescens, and ending with that other Chinese species, Syringa villosa, or perhaps with the tree lilacs which come later still, the display may be carried over many weeks. S. villosa is fairly well distributed. It makes a fine round-topped bush, and its late flowering habit adds much to its value. It should never be planted for its fragrance, though, for truth to tell, the odor is far from agreeable.

It is quite contrary with S. pubescens, this being one of the sweetest of all known Lilacs. It is a tall shrub with small leaves, and short broad cluster of pale, Lilac colored flowers. While not strikingly handsome, it is very highly valued for its early flowering habit as well as its pungent and delightful fragrance. Unfortunately it is not readily propagated, for it never produces seeds here and cuttings do not strike as easily as those from most other lilacs.

Among the other excellent lines which would seem well worth a place in gardens are S. *Lutece*, red violet; S. *Wolfii*, violet purple; S. *Waldeck Rousseau*, pink; S. *Toussaint Louverture*, red purple; S. *Maurice de Vilmorin*, lilac colored; *Congo*, dark red purple; *Macrostachya*, pale pink; *Marliensis pallida*, pale pink; *Justi*, pale blue; *Ludwig Spath*, red purple.

The Arboretum experts consider that the last named, with *Philemon*, which it much resembles, are the handsomest Lilacs with dark red purple flowers. *Marie Legraye* still holds first rank as the best of the single white flowered Lilacs. Some French white flowered Lilacs have been introduced in recent years, but have not been grown in this country long enough for their value as garden plants to be determined.—*Horticulture.*

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> *"He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers."*—ZOROASTER.

Flower Show Suggestions.

Our friend, Geo. Churcher, of England, has sent us a circular issued by the Midland Daffodil Society, Birmingham. There are some interesting ideas contained in it, the most important of which is a requirement which reads as follows:

> Each exhibitor will be required to give the secretary, on the first day of the exhibition, a list of the prizes won, *together with the names of the flowers exhibited*, for publication in the report and for checking with the books.

This seems to be putting the exhibitor under rather difficult conditions, because the exhibitor cannot be sure of prizes won without referring the matter to the secretary or chairman of the exhibition committee. However, the exhibitor can furnish the names of the flowers exhibited all right enough and he should do it, and this would be an excellent idea in connection with any flower show, but this necessitates awaiting the finishing of the work of the judges, and also necessitates the presence of the exhibitor at the flower show when the work of the judges is finished.

From our experience at flower shows in the U. S., the judges have no regular schedule of time for doing their work. They seldom start when advertised to start and they finish at their own convenience. The judges should be subjected to some rules as well as exhibitors, and exhibitors who do not have their flowers staged at the time advertised, should not be allowed in competition, and on the other hand, the judges should commence work exactly when advertised in the prize schedule and they should keep at work on the job until finished. If the judging were completed at some definite time, then the exhibitors could be required to furnish the secretary with a list of winning varieties as indicated in the above requirement from the English circular referred to.

There is opportunity for improvement in the handling of flower shows in this country and too much latitude is at present given both exhibitors and judges. By all means let us have more uniformity and let us have the names of winning varieties reported officially and not depend on casual reports.

MADISON COOPER.

Join the American Gladiolus Society.

Those who are greatly interested in the Gladiolus should join the American Gladiolus Society. The society needs the support of all lovers of the Gladiolus. Gladiolus lovers should not be too critical as to the personal benefits to be derived from membership in the society. It is surely worth the price of the yearly dues, $2.00, to be associated with a national organization with so worthy a purpose and the possibilities for good work of such an organization depends on the number of its members. The society is ten years old, and it has done much good work in spreading knowledge, testing varieties and conducting flower shows. H. E. Meader, Dover, N. H., has agreed to give all new members joining before the next annual meeting in August one dozen blooming size corms of the beautiful Kunderd variety, *Myrtle*, and under the present arrangement with the society, THE FLOWER GROWER is sent free to each member during the life of his membership. The present is a very opportune time for joining.

Mrs. Hammond's Sunflower article on our front cover page this month is worthy of careful perusal. The Sunflower, although extremely plebeian in its characteristics and somewhat coarse as a flower, is worthy of a place in any garden. The editor grows Sunflowers with the least possible effort. They come up freely as "volunteers" each year as they are allowed to go to seed. Then it is only a question of pulling out the ones not wanted. They do exceedingly well in a moist situation. The unusual trait of keeping its face toward the sun from morning until afternoon, which the Sunflower possesses, makes it most interesting, and although the common Sunflower is rather coarse and heavy, yet if one wishes to specialize on the Sunflower there are a large number of fancy varieties which are quite attractive.

In days gone by, and indeed at the present time, originators and growers of new varieties of flowers sometimes send stock out for trial with the request or understanding that it be returned at the end of the growing season with its increase. We do not think that this is the customary way, and indeed we believe this plan is a little old fashioned, and that most stock sent for trial becomes the property of the party who does the trying.

Speaking from a personal standpoint the editor has refused to accept for trial stock which he cannot add to his collection if pleased with it, or throw it away if not pleased with it. Is it fair to ask that stock sent for trial be returned to the originator? Is it reasonable to expect the man who does the trying to furnish his time and effort for the purpose of giving a report to the originator and then lose the stock at the end of the growing season? We would be glad to have an expression of ideas on this subject.

The first three weeks of June, 1919, were certainly the greatest growing period that we have ever experienced in northern New York. It seems as though nature were trying to make up for the cold and backward spring by giving us extreme heat with enough moisture to balance it. Vegetation is probably as far advanced at this date, June 23rd, as the average season. Weather conditions the country over seem to have been somewhat similar, and it is probable that those who were able to get their plantings made on time have been satisfied with the progress which crops have made to date.

MRS. AUSTIN'S TALKS

[Written expressly for The Flower Grower.]

The Elderberry Bushes in the Old Fence Row.

IT WAS in one November that I first saw the old fence row and thought how exceedingly ugly it was and wondered why it had been left so long. There were evidences that at one time there had been a well built rail fence there dividing the grain and meadow lands of a farm. It had been a long fence and one end had reached to the road thus fencing the yard on one side of the farm house. That the owner had taken pride in the building of the fence was shown by the evenness and care with which the rails had been laid—in those occasional places that still remained intact. There were other parts so touched by time that the lightest breeze mingled the dust of the forest monarch with the soil so often trod by the builder who, long before, had, like the monarch, returned to dust.

An Elderberry bush by the stone pile.

Time passed, the village progressed and the fence row marked the line between two city homes. The old farm house of the original owner was wonderfully draped and festooned with pendulus wistaria, whose subdued violet coloring made harmonious contrast with the weather worn gray of the building and seemed a constant drooping reverence to the memory of the one who had planted it in years agone.

It was now a renting house, having become the property of a wealthy magnate in a distant city, whose foresight and speculative instinct had led him to make the purchase.

Perky bungalows had sprung up on one side, and on the other and beyond the fence row, was a staid cottage also rented. Neither renter cared for the fence row.

> "Ill fares the land, to hastening ills a prey,
> Where wealth accumulates and men decay."

Nature heals her wounds and hides her scars, and in springtime wildflowers bloomed in the old fence row. Wild Roses hung their wreaths of loveliness there and birds nested in the tangles of scrubby bushes and bittersweet dining on berries in fruiting season. Then Elderberry sprouts—whips we used to call them—began to grow and found environment ideal. More and more grew, crowding out the tangle in that great law, "The survival of the fittest." They bloomed and fruited again and again, and the old fence row became a beauty spot, a shrubbery row unsurpassed. Tall and wide and in perfect symmetry it grew, and covered itself with creamy lace-like blooms. Strangers paused to admire and "didn't know that just Elderberry bushes could be so beautiful."

More homes were established, many of them by people who loved flowers and vines and trees and were appreciative of the beautiful in nature, and they loved the old fence row. The renters were proud of their Elder shrubbery and the neighborhood became the most desirable residence section of the little city. It was fast becoming exclusive and there came a hint of aristocracy in the air. Even the Elderberry shrubs held their beautiful blooms in lofty gracefulness. Were they, too, becoming proud and haughty? Who knows?

About this time the owner, tiring of the strife and turmoil of a great city, bethought himself of his place in the country town, and great was his surprise at the progressive changes there. He flattered himself on his business foresight in purchasing property in that section, but, looking at it with a speculative eye, the old house looked pretty much run down, it needed painting, sure, and, seeing the Elders—there were *bushes* everywhere. The time of his visit was midwinter and the bushes and parts of old rails, and small piles of stone that had been placed there because they hindered the plow of the farmer, were plainly visible, and the magnate gave orders that the fence row be cleared of wood and stone, and the bushes dug out and burned.

The old house is gone, and in its place a modern one on whose spacious porch the magnate spends his summer days, and the line where the old fence row was, is now marked by great square posts made of cement blocks.

MRS. A. H. AUSTIN.

Labels.

[Written expressly for The Flower Grower.]

WOOD.—White pine stakes well painted with white-lead and linseed oil, and labeled with lamp-black and linseed oil may be depended upon for years of service, whether in or out of the ground. The little pointed white pine labels are better bought unpainted, if for outdoor service, as the paint put on at the factory fluffs off from exposure to the weather, and carries the writing with it. The unpainted labels, if written on with proper pencil, are perfectly good for one season, and so cheap it does not pay to use anything else, or to go to extra trouble with them. The pencil I have used is Eberhard Faber, weatherproof 6639. The common purple indelible pencil is in favor with many plant shippers, written dry and then developed by the moisture of the package. The writing can be safe-guarded by dipping the tag, when perfectly dry, in viscol.

PAPER.—Tough manila tags, written on with the weatherproof pencil, probably also with the indelible pencil and then soaked with viscol, will stand the weather several years.

Viscol is sold by the shoe stores for weatherproofing shoes. It is a rubbery petroleum material thinned with gasoline, presumably.

ZINC.—Zinc strips, stamped with combinations and repetitions of such marks as 1, X, O, will last a lifetime, either in the ground or out of it. Of course a record must be kept of the marks. There is a chemical mixture which, written on zinc with a quill, gives a dead black record which will stand the weather or soil for many years. I have forgotten the formula.

NOTE.—From Henley's "Formulas," a copyrighted book, I copy the following, which I think is the one I used: "Verdigris and sal ammoniac, of each $\frac{1}{2}$ ounce; lenigated lampblack, $\frac{1}{2}$ oz.; common vinegar, quarter pint; mix thoroughly." This should be mixed and kept only in glass.

B. C. AUTEN.

Gladiolus—Fire Ribbon.

[Subject of illustration on front cover page.]

An unusual type of the Gladiolus. Originated by A. E. Kunderd, Goshen, Ind. As shown by the illustration, there are many blooms open at a time, and the spike is a long, fiery band of glowing red. It is exceedingly rich in tone and strikingly showy and of unusual form.

WAYSIDE RAMBLINGS

TIME FROM PLANTING TO BLOOMING OF GLADIOLI.

It is quite interesting to read the different tables that appear from time to time in THE FLOWER GROWER as to the number of days from planting to blooming, or the cutting of the first spike. Different varieties, no doubt, require a longer or shorter time to bloom, take for instance, *Pink Beauty* which is the first in the market, followed close by *Halley* or some other (as there are others) variety. Then comes *Mrs. Francis King*, *America*, etc., coming in later even if planted at the same time. Weather conditions, location and soil also make a difference, and the size and vitality of the corm has much to do with the growth of the bloom. To get at the point of earliness a good suggestion would be for all growers who wish to try it out in a certain locality or zone, plant at the same time. Take for instance the west, in a certain district in Ohio growers should plant one or more varieties of the earlier sorts on a certain day, plant a hundred or five hundred bulbs of a certain size, note the time of planting also the date of cutting the first spike when the bloom opens. Then jump to Massachusetts, New York or Jersey, each section planting the same way. This could easily be done by a notice in THE FLOWER GROWER calling attention to the fact, reminding all growers interested in the matter to plant and make a report to THE FLOWER GROWER in a certain month, giving their respective location where grown, with weather conditions, etc., and by these means I think a true table of earliness could be arranged for each locality. I think when a grower sends in his table his locality should be given, then all growers in that locality would have a guide to go by. Below I give a table I made up of the following varieties, the location being Southern New Jersey:

Early Pink—Planted May 18, cut July 22—65 days.
Jessie—Planted May 18 cut July 17—62 days.
Mrs. Frank Pendleton—Planted May 15, cut July 22—68 days.
Panama—Planted May 2, cut July 27—88 days.
Myrtle—Planted May 16, cut July 23—69 days.
Chicago White—Planted May 20, cut July 26—68 days.
Titanic—Planted May 17, cut July 25—70 days.
Hohenstaufen—Planted May 17, cut Aug. 14—90 days.
Mrs. Francis King—Planted May 1, cut July 20—80 "
Halley—Planted May 1, cut July 8,- 69 days.
Lucille—Planted May 17, cut July 30—75 days.
Early Amethyst—Planted May 17, cut July 30—75 days.
Ida Van—Planted May 15, cut July 27—74 days.
Carmen Sylvia—Planted May 17, cut Aug. 2—78 days.

In the Sept. issue of THE FLOWER GROWER, Mr. Miller states that a good plan would be to average the bloom from the time a certain number of corms planted. I think as soon as the first spike is ready to cut from the time of planting, should give the time it took for that certain variety to bloom. I think if corms are all of a size, and of good vitality and the same variety they will all bloom at the same time. As the subject is a very interesting one, comments from experienced growers giving location, weather conditions, size of corms, etc., would be of interest to all growers of Gladioli. Then we would know which are the earliest, medium, or late blooming varieties. This last year I started to plant about the 18th of April and about every ten days or two weeks until the 18th of June when I put in my last lot of mixtures of different size corms which gave me flowers up to Nov. 3rd when I cut the last.

HERMAN KIRSCHT.

PRICES OF GLADIOLI.

There is such a wide variation in the prices at which the same varieties of Gladioli are offered by different growers that it may well be asked how are these prices arrived at? Is it reasonable that one variety should be offered at 80c. per dozen in one price list and at $1.50 in another?

Of course it is possible that these two prices may represent a difference in quality, or a difference in size, but even where the size is definitely stated there is frequently the same difference in price. Quality is safely left out of account, for surely no grower who cares anything for his reputation—and his trade—will advertise inferior stock. That some are unscrupulous, or careless, is evident. I have bought stock that was so diseased that I wouldn't plant it, but the dealer who sold it to me will never have the opportunity of selling me anything more at any price, unless he admits his error and makes it good. At any rate quality alone will not account for the big difference in price cited above, which is taken from two retail price lists of this year.

Suppose one variety is listed very low, and another very high—both in the same catalogue. How account for it? *Mrs. Frank Pendleton* at 80 cents is low and *Red Emperor* at $5.00 per dozen is high. Isn't it fair to assume that this grower has plenty, or even a large surplus, of *Pendleton*, and only a small stock of *Red Emperor?* And that he wants to sell a lot of his *Pendleton* stock, but isn't particular about selling much of the other?

That is the way I have regulated my own prices. The figures quoted above, however, were from another list, which seems to me to indicate that others may use the same method. It has been suggested to me that this is not the proper way to decide prices: that if one has a surplus he should wholesale it to other dealers, rather than reduce the price so as to sell it as a bargain at retail.

Which is the proper method? Everyone who issues a price list must have some basis for determining how much he will charge for each variety. Shall he make a low price where he has a surplus, as when a variety moves slowly, or when he has grown more than he needs; or shall he in every case keep the price up to where other growers hold it?

Nothing that has been said here should be taken as meaning that there has been, or could be, any concerted attempt at regulating prices to a uniform level. There are bound to be differences of a few cents up or down. The question we are discussing is whether or not the quantity of stock in the hands of any grower should regulate his own prices, without reference to other growers.

My own belief is that (the advertising cost being the same) it would be best to dispose of a large surplus to the wholesale trade; but that the small surplus is best taken care of by reducing prices per dozen, even to the "bargain" point.

The large grower, with the large supply, may not have to meet this question, for he can sell to small growers. But the small grower with a surplus of a few hundred in any one variety cannot interest the large grower, and either has to reduce prices, or keep his stock when he doesn't want it, or perhaps throw some of it out on the dump.

It is the old question of supply and demand, and how best to bring the two together.

We have not pretended to cover the whole question. We hope some one else will continue. And it will at least be interesting to find out whether the practice of regulating prices by the quantity of stock on hand, is general or not.

P. M. T.

POSIES AND PIGS.

It's a far cry from posies to pigs, but a seeming feasible combination of these two may be worked out that should add dollars to the bank account. Keeping up the fertility of the soil with barn-yard manure up in price to two dollars a load is a matter not to be lightly thought of. Then the strawy nature of fresh manures which soon become a moldy mass cannot help but invite disease troubles. Through observation, feel this to be our own experience, and that for best results in Gladiolus growing, manure should be composted and thoroughly rotted before using. While possible to turn under cover crops such as rye and clovers and with the addition of commercial fertilizers and keep up the fertility of the soil fairly well, no doubt the lack of animal manures eventually would be sorely felt.

Why the pig? Suppose you divide your acreage into four fields and thus have a four year rotation—Glads and other flowering bulbs, corn, rye and clover. Properly fence these four fields, be they small or large, grow crops of corn, rye and clover then turn your porkers in to feast and grow fat. Willing to bet a dollar to a doughnut that the question of keeping up the fertility of the soil would be pretty much solved. If this should work out satisfactorily just think of the time and labor that would be saved and the profits to be made out of pigs at the present time. Fats were never in such demand and the market price of pork never so high (Cleveland market 21c.

per lb. live weight) and with the Dove of Peace fluttering near, this nation will be taxed to the utmost to supply the world's markets.

This is a plea for the thoroughbred hog; the cost of feeding out is no more than for the common scrub; they grow heavier on the same amount of feed and mature quicker. Anyway we have a lot of faith in this plan, and with the Modern Big Type Poland China and with the Modern Gladiolus will thoroughly try out the "Posy and Pig" combination.

JOE COLEMAN.

EFFECT ON BULB OF CUTTING GLADIOLUS FLOWER SPIKES.

Being a constant reader of THE MODERN GLADIOLUS GROWER and THE FLOWER GROWER I notice a number of articles on cutting the bloom or spike for the best result of the bulb. Different opinions have been dwelt upon and as I was greatly interested in the subject I thought of experimenting a little on that line with different varieties. I found the following results after digging the bulbs in the fall, by leaving different number of leaves standing. The variety I selected was *Jessie* and I used bulblets, the object being to start from the first planting of the bulblets and looking for the result in the bulb in later years. In the photograph you will see three bulbs with their spikes cut, the result being as follows: No. 1 made a 1 in. bulb; No. 2 made a 1 in. bulb and No. 3 made a 1 in. bulb, soil and other conditions being the same, under the following treatment: No. 1 was left to grow and did not bloom; No. 2 was left to grow until the spike was above the leaves, but not open enough to show color and then pinched out; No. 3 was cut when one flower was open and four leaves were left standing. Now, as to the size of the bulbs we see no difference, all being the same size, the only difference being in the number of bulblets, while No. 1 and No. 2 made a number of bulblets, No. 3 only made one bulblet. We see in this case by leaving more or less leaves standing for best results of the bulb it made no difference, only giving me more bulblets. Now, as to the vitality of the bulbs this must be looked into and reported on next year. I am saving these three bulbs with others and will plant and handle them all under the same treatment and show the results with photographs to illustrate if possible together with the condition of the bulbs when dug.

HERMAN KIRSCHT.

DAYLIGHT SAVING.

The Daylight Saving Law proved a wonderful departure to me as well as to numbers of my friends, as well as others, both those who have gardens and those who love sport or to wander about in the great out-of-doors. All of us who are confined during working hours, in stuffy offices or chemical or other scientific laboratories, decidedly appreciated the extra hour given us to get away from these conditions. We think that Mr. Farmer, could, without great inconvenience readjust his working hours so that those—the great majority—who must labor all day indoors may gain this extra hour of fresh air and sunshine.

CHAS. E. F. GERSDORFF.

RED EMPEROR AND LA CORDAIRE GLADIOLI.

Mr. Geo. S. Woodruff in THE FLOWER GROWER for January, 1919, under head of "Some of the Newer Gladioli," speaks about *Red Emperor* and *La Cordaire* as being the same variety. We can state, however, that these sorts are not the same. *Red Emperor* is one of the finest red Gladioli and is of Dutch origin. It is a very strong grower with gigantic flowers and of intense red color.

K. VELTHUYS, LTD.

Some of our readers will probably disagree with Mr. Velthuys that *Red Emperor* is of Dutch origin. If it is the same as *Dominion*, it is of American origin and creditable to Mr. Groff. Evidence indicates that there is no doubt about *Red Emperor* and *Dominion* being the same.—[EDITOR.]

SHIPPING CRATE FOR CUT GLADIOLI.

For cheapness, convenience, strength and light weight, I use banana crates. Many firms give them away and others charge five cents. These crates vary in size from 28 to 36 inches in height, 12 to 15 inches across bottom and 16 to 18 inches across the top. They are constructed with a wooden hoop at top, center and bottom, and the staves of $\frac{1}{8}$ inch veneer material are 3 to 5 inches wide. The staves seldom come together and when there are several inches between them the crates are lined with heavy paper as thick as a postal card.

Line them with wrapping or newspaper; roll 12 to 25 spikes in sheet of newspaper, according to amount of blossom out, stand up in crate till packed full, stitch burlap over top. Being larger at top than bottom they are right shape and flowers arrive in fine condition. Crates will hold from 150 to 300 spikes, according to size of crates and spikes and advance of bloom.

W. THURSTON GIBBS.

DAYLIGHT SAVING LAW.

The daylight saving law always was unpopular with me and, in fact, there never was any good in it. I have absolutely no patience with any one that can't get up in the morning unless the hands of the clock point to 6:00 or 6:30 o'clock. My objection to it is that my work in the flowers is done as a side line and my regular duties call me to work at 6:30 a. m., and with the old time I could get up in the morning and work an hour or more in the flowers before beginning my regular duties of the day, but now I have very little time in the morning to work in the flowers and when I get home in the evening after my day's work I am tired out with the day's business and do not feel so much like working in the flowers as I did in the morning. And then beside I always think the flowers are more interesting in the morning. I like to stroll around among them looking for something new and remove any weeds and giving them all of the encouragement that I can by cultivation, etc.

L. S. REAM.

MARKING STAKES.

I find the best way to mark Gladiolus bulbs when planting is to take a stake about 1 in. wide and $\frac{1}{4}$ in. thick and 12 in. long, write the name with blue indelible pencil and then coat with shellac over the name. They will stand all kinds of weather and last more than one season.

J. T. DOLING.

AGE AND GLADIOLUS CORMS.

We have grown Gladioli in a small way for fifteen years and have not purchased much new stock, none at all for four years. Have planted the divided corms for years. Never had finer bloom than the past two years, so we do not think that division affects the blooming.

T. L. MCKEAN.

STORING DAHLIAS.

In the May number of THE FLOWER GROWER "C. C." speaks of using leaves in which he had Dahlias stored during the winter as a mulch for Gladioli.

I would like to know more about this method of storing Dahlias. Nothing freezes in our cellar, but it has a cement floor and is very dry. We keep our roots in sand to prevent them from drying up. The use of leaves looks to me as though it might require much less labor, and I would like to try it.

MRS. R. E. GIFFEN.

Note by the Editor—

Will be glad to have further information on this subject from those who have used leaves for the purpose indicated.

Northwestern Peony and Iris Society.

I have had numerous inquiries in regard to Peonies rotting at the surface of the ground. This has been an unusually rainy and cold spring in the Northwest and the disease has been particularly annoying in a good many gardens. This disease is known as Botrytis or a rotting at the base of the stalk. Peonies should be carefully watched and if any of the young or even nearly mature stalks show wilting, the trouble will doubtless be found in the stalk being rotted off near the base of the ground. The disease affects stems, buds and leaves in the order given and is always more prevalent during rainy seasons. The rot usually does not extend very far below the surface of the earth.

Removal of the affected parts and all earth immediately surrounding the diseased portion of the plant is the best remedy for eradication of the trouble. A small trowel can be used to good advantage in removing the earth which should be carefully and thoroughly done. After soil has been removed, cut off the stem of the diseased shoot above the crown or directly below the diseased portion. Care should be taken that the affected portion of the plant does not come in contact with the balance of plant or the disease may be easily transmitted to the healthy portion. Destroy the diseased parts and replace the soil removed with other soil or sand. Fortunately the disease does not affect the root of the plant and if entirely removed the young shoots thrown up the following year will be healthy. If disease is not removed they will be contaminated by spores of the disease that remain in the soil or live in the old diseased stalk from year to year. This disease is very similar to Sclerotina. A little watchful care and attention will soon eradicate the disease.

Just a word about preparing Peony bloom for exhibition. As stated in former articles the process of disbudding all but the central bud should be done when the lateral buds are very small, thus throwing all the strength in the one remaining bud on each stalk. Plants should be well staked to prevent being buffeted about by wind and rain. About a week before the time of intended display of bloom, if found that the buds are developing too rapidly, the most promising buds should be cut and placed in a dark, cool cellar. This will retard rapid development and the flower will retain its original delicate coloring. Exposure to sun for a few hours will entirely eliminate most of the delicate shading and will often cause the identity of the variety to be questionable. If necessary to pack to carry a considerable distance they should be placed in flat paste-board boxes after having been prepared by stripping off the lower leaves of each stalk. Each bud should be wrapped in tissue paper, care being taken to see that there is no moisture on the bud which will result in discoloration of petals. Endeavor before wrapping the bud to press it carefully so it will be as near the original bud form as possible. As soon as they arrive at the exhibit they can be unpacked and immediately placed in water, cutting off a short section of the stem to permit the stem absorbing all the water possible. If buds are not fully expanded, placing them in warm water will hurry the process of development. They should also be placed where the warmth of the sun will assist in this operation. It is well to take a few blooms of each variety you intend to display in excess of the number to be exhibited for the reason that some buds may develop better bloom than others.

The very splendid articles on the Iris that have been appearing from month to month in THE FLOWER GROWER will be found exceedingly helpful in the growing and propagation of the Iris. I consider THE FLOWER GROWER one of the finest magazines of its kind that comes to my desk, and am in hopes of seeing its circulation doubled in the next few weeks. The untiring efforts of its editor in bringing it up to its present high standard should be an incentive to all who have the pleasure of reading its pages to feel obligated to bring in at least one new subscriber which would double the circulation.

W. F. CHRISTMAN, Sec'y.

Propagating Choice Gladioli.

It is, of course, well known that most, if not all, of the florist's varieties of Gladioli may be propagated by means of spawn, as the tiny cormlets that are produced on the larger corms are called, and, although this system answers very well for ordinary purposes, it has the drawback of several years having to elapse before the plants resulting from these cormlets reach a flowering size. It is also fairly well known that corms possessing two or more eyes can be cut while dormant into as many pieces as there are eyes, with a fair hope of success. Here, again, the cultivator has a difficulty to contend with, some of the dormant pieces refusing to start into growth when planted, or, if they do, the growth made is so weak and unsatisfactory that nothing is gained by the operation. This cutting of the corms will, of course, only be resorted to where it is desired to make the very most of a variety for some particular purpose, as, however successfully it is performed, the flowers for the ensuing season must be forfeited, because, even should any appear, it will be wise to remove the buds as soon as they are seen.

Having a few choice varieties last year that I particularly wished to propagate, I varied the above plan somewhat, with most satisfactory results. Instead of cutting the corms while they were dormant, they were planted whole in a deep box, soil containing a good proportion of leaf-mould and Cocoanut fibre refuse being used. The box was placed in a warm greenhouse (45° to 50°) near the glass until the plants had reached the stage where the sprouts were six to eight inches tall. Some of them had two strong shoots, and these I decided to cut, the operation being performed with a clean, sharp knife from top to base, taking care to secure one shoot and a number of roots to each portion. The cut surfaces were then dusted with powdered charcoal in the orthodox manner, and the sections potted separately into 3-in. pots, using soil containing one-third leaf-mould and a good sprinkling of sand for the purpose. The plants were kept rather close in the greenhouse for a fortnight, receiving a light syringing overhead daily, and at the end of that time they were placed in a cold frame, the pots being plunged in ashes and the plants gradually inured to the open air. After a fortnight or so in the cold frame they were planted in open quarters, and at the end of the season each cut portion had produced a flowering size corm and a number of cormlets.

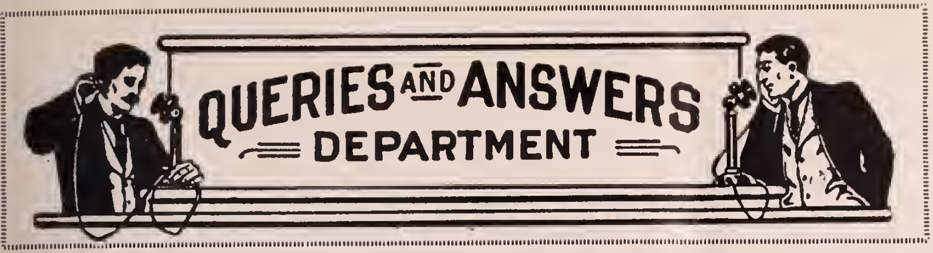
The corms that only produced one shoot were allowed to remain in the box until thoroughly hardened, this being accomplished gradually to prevent any check to the plants, and then transferred to the open, disturbing the roots as little as possible. Even where propagation is not desired it is a good plan to start choice varieties into growth under glass, blindness being thus usually obviated. The plants take to the treatment very kindly and grow away and flower without any check whatever. It is, of course, absolutely necessary to avoid coddling them at any period of their growth.

This procedure may be regarded by some as very elaborate, but one only devises it for special purposes, the results, as compared with those obtained from cutting the corms when dormant, fully justifying the extra trouble taken.—H. E. in *The Garden* (English.)

How to Keep Sweet Peas in Flower.

Many people grow their plants well until August is well advanced, when they begin to get into an unsatisfactory condition, and their blossoming period comes to an untimely end. All this may be avoided if a little attention is given to the plants. Immediately deterioration is noticeable in the quality of the flowers, all blooms and seedlings should be removed, thus concentrating all the energy of the roots on the development of the growth of the plants. The soil should be forked over round about the clumps or down the side of the rows, and the plants given a copious application of water, to be followed immediately by manure water. This will stimulate the growth, and if nitrate of soda at the rate of half an ounce to a gallon of water be applied subsequently, growth will be of a very satisfactory character, and a new lease of life be given to the plants. Should the weather continue hot, it is a good plan to syringe overhead with clear water in the late afternoon or evening, this also contributing to their well being. In very open and exposed situations, it is a good plan also to mulch both sides of the rows, or round about the clumps of the Sweet Peas. In some cases, where the plants appear to be so bad as to be beyond recovery, the grower should not despair. By adopting drastic measures, it is possible to make even the most unpromising plants render a good account of themselves for some little time to come. It is a good plan in such circumstances to cut back the plants to two-thirds of their height, applying water and mulching, as advised earlier. It is astonishing what a wonderful yield of new growths will respond to this treatment of the plants, and we know of Sweet Peas that have blossomed well into the autumn where these measures have been adopted. Those who desire to maintain the display in their gardens for some time to come may adopt either of the methods above suggested with every confidence.—*Gardening Illustrated.*

A subscriber wants to know how to treat Pansies with liquid solution or otherwise so as to preserve their natural coloring when pressing them for preservation. Any suggestions will be appreciated.



[This department of The Flower Grower is intended to be one of its most helpful and valuable features. All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication.]—Editor.

Tulip Troubles.

To the Editor:—

My Tulips came up in a fine healthy condition when suddenly I noticed that the leaves and stems were beginning to look dead and shriveled up. The trouble began with the May flowering and is affecting the Breeder and Darwins. The bulbs seem shriveled but the main trouble is the foliage. Have examined them under the magnifying glass and can see some tiny white worms on the stocks and there are white specks on the leaves. Have had wonderful success with tulips until this time so am at quite a loss to know what to do. V. E.

Answer:—If your correspondent happens to live in the region affected by the freezes of last April, I am inclined to think he will find that the injury complained of is due to the cold. I have had a very large number entirely killed, and many more variously injured in the manner described, but I do not think it is due to either insects or fungi. It will require further experiment to be sure. I may say in this connection that it seems possible to be too kind to Tulips. "Treat 'em rough" seems to be a good motto to follow. All the injury to my stock occurred in the specimens I mulched most carefully. The bulbs that were not covered at all came through without a single injury.

Willard N. Clute.

Controlling Chickweed.

In a recent issue W. F. Massey states in "Notes from a Maryland Garden," that it is an easy matter for him to dispose of chickweed in his garden. As I am very greatly troubled with this weed, and have tried for years to get rid of it, will you ask him if he would give the remedy? J. N.

Answer:—I did not mean that I have abolished the chickweed, for I have it as plentiful as ever in winter. I do not think that anyone can clean a garden from it entirely, for it blooms and seeds all winter. A farmer from up near the Delaware Water Gap came to my office a few days ago, and, noticing a thick mat of chickweed covering some of last year's flower beds, remarked that that weed was his chief annoyance. I told him that I had long ago ceased to worry about chickweed, for I find it an admirable winter mulch, protecting many things, and giving me some green growth to dig in in the spring. On the 14th of February I buried a thick growth of chickweed and sowed the first English peas. Now that is the last of that chickweed till another winter, for the cultivation of the garden is too rapid and clean to allow it to grow. Then as hot weather comes on it is very easy to kill any chickweed that shows. When the chickweed appears on the lawn it is a very different matter. It gets in the grass generally from people using stable manure on the lawn. Better top-dress the lawn with raw bonemeal. But when the weed is there, make a saturated solution of iron sulphate, commonly called copperas. Sprinkle the weed with this liberally with a watering can. It will destroy chickweed and will not hurt the grass. That is the way I fight it on the lawn. In the garden I let it grow all winter, till I want its room in spring, and during the summer I fear no weeds in the garden, for I do not allow any to grow.—W. F. Massey in *Rural New Yorker.*

Forcing Gladioli—Information Wanted.

Will someone who has had the experince, kindly tell us the best varieties of Gladioli for forcing and should they be planted in boxes or in solid benches and what temperature is required, and how many days from time of planting to blooming when put under forcing conditions? A correspondent wants this information and doubtless many of our readers would be interested along this line.(—Editor.)

Replanting Gladioli.

For how many years in succession may the same Gladiolus corms be successfully planted? They are lifted and dried every autumn.—Grace Gardner, *Hassocks.*

Answer:—Provided you take the precaution to plant in a fresh position or soil each year, you may grow the corms for an almost definite period with impunity. Much hinges, naturally, on the way they are grown, and in this connection a deeply cultivated, well-enriched soil with perfect drainage is a matter of import. Winter trenching and manuring, a cool, well-aired store for the bulbs when dry, and early April planting when the soil is fairly dry are cultural items not to be lost sight of. As a fresh corm is produced annually above the old one, the cultivator is dealing virtually with a new plant each year, though it may not be endowed with the vigor of a seedling flowering for the first time. You might raise seedlings for yourself and note their increased vigor as against the others.—*Gardening Illustrated.*

Bound Volumes as a Reference Library.

The four bound volumes of The Modern Gladiolus Grower (1914 to 1917 inclusive) contains more useful information regarding the Gladiolus, its culture, history and improvement than can be had from any other source. These four bound volumes also contain much useful information about other summer-flowering plants, but the Gladiolus is especially well covered. These volumes contain the W. W. Wilmore, Jr., articles entitled, "The Gladiolus Manual." All information is quickly available by means of an index in each volume, and those who are interested in studying the subject cannot afford to be without these bound volumes. There has been no advance in the price. We are still furnishing the four volumes postage prepaid for $5.00. Furnished separately at the same rate, $1.25 each. Those who are interested in studying the practical and scientic features in connection with growing Gladioli should surely have a complete file.

The Glad Philosopher's Musings.

Every once in a while we hear someone speak of "the miracle of nature." There can be no such thing as a miracle of nature. Every act of nature is guided by an inexorable law. Some of these laws may not as yet be known or understood, but they are as existent as the earth itself.

Speaking of miracles, the first case on record where the sun was made to stand still, was when Joshua, according to the Scriptures, caused that orb to remain overhead for a full day. But the sun has been made to stand still for an hour at a time on two later occasions, when by order of Congress and the President, the clocks of the nation were turned forward 60 minutes.

If the daylight saving plan becomes a permanent fixture, the Marvel of Peru will have to change its popular name to the "Five O'Clock."

Behold the gorgeous Oriental Poppy. Even Mrs. Solomon, in all her glory, was not arrayed like one of them.

Someone has well said: "You will have a better garden if you use the hose less and the hoes more."

"Will there be any flowers in Heaven?" asks a well-meaning woman of sentimental temperament.

Dear sister, don't worry about the flowers in Heaven. Brighten up that neglected corner of your terrestrial home grounds with a few corporeal Irises and Peonies, and trust the details of the extramundane gardening to those who are on the job.

Some time since, in searching for a suitable inscription to accompany the gift of a book on floriculture to a flower-loving friend, this quotation appealed so strongly that it was selected for the purpose:

> "Were I in churchless solitudes remaining,
> Far from all voice of teachers and divines,
> My soul would find, in flowers of God's ordaining,
> Priests, sermons, shrines!"
> —*Horace Smith.*

The Glad Philosopher.

The Art of Potting.

Though it may seem a simple matter enough on the surface, there is a good deal of art in potting plants properly. The pots should be well drained, using for this purpose pieces of broken pots or crockery, and placing one large piece over the hole in the bottom of your pot. A little sphagnum or rough material of some kind should next be placed over the crocks to keep the soil from being washed down and blocking the drainage. Then put an inch or so of soil before placing the plant in position, and fill in with the compost, pressing this down firmly with the fingers until the pot is nearly but not full.

If the pot is over-filled, insufficient room is left for watering, while, if not filled full enough, not only does the pot not contain enough soil, but the plant is liable to become "drowned" when water is given. There ought always to be enough space left between the top of the pot and the surface of the soil, to allow the giving sufficient water to saturate the whole of the soil and moisten all the roots.

Some people seem to throw the plants into the pots almost anyway and still they grow and do well. This plan may answer well enough in a country garden, where plants seem to thrive under any condition, but too much care cannot be taken in the suburban or town garden. Most plants, especially those of the "hard-wooded" or shrubby type, require to be potted very firmly—that is, to have the soil made almost hard in the pots, but in the case of soft-wooded plants, generally, pot rather loosely for rapid growth, and more firmly for early bloom. In all potting operations, see that the roots of the plants are spread out in the soil, that is to say, they should not have the soil thrown on them, but among them. The soil should always be slightly lower at the rim of the pot than at the neck of the plant.—*Gardeners Chronicle.*

Let Children Have Flowers.

If the round of one's activities confines his attention to the sordid things of life; if he never takes the time to see and appreciate the numberless appeals that nature constantly makes to the finer instincts of his being, he will eventually lose the power of response and become blind to the beauties, deaf to the harmonies of his surroundings.

I can imagine no greater misfortune befalling a man than the realization in the later years of his life that he has passed through a world where others have seen beauty in myriad forms, harmonies of song in every bush and from every tree, to which he has been blind and deaf.

We can do our children no greater wrong than to deprive them in their earlier years of the means of cultivating the highest susceptibilities of their nature. On every farm, within the narrow limits of every city lot where children grow, in every school yard there should be as great a wealth as possible of blooming plants and shrubs, and the children's attention should be directed to the wonderful adaptation of insect to flower, of seed distributing attachments, the pappus of the dandelion, the down of the thistle, the wing of the maple, the parachute of the linden.

Once opened to the beautiful activities of nature, the eye of the child will never cease to find new wonders; his mind grows into the habit of seeking relations of cause and effect; his soul becomes filled with admiration for the skill with which part has become adjusted to part, and he ultimately finds himself possessed of a source of pleasure which outlasts all the misfortunes of life.

C. F. DAVIS,
Colorado Agricultural College, Fort Collins, Colo.

The Best Hardy Shrubs.

AUTHORITY GIVES LIST.

"What are the best shrubs introduced in recent years?"

This question was asked of Prof. Charles S. Sargent, of the Arnold Arboretum, at Jamaica Plain, Mass., the other day. It would be hard to find a man better qualified to answer such a question, for great numbers of new plants of all kinds are constantly being tried out in the grounds of the arboretum to determine the ones most suitable for growing in the gardens of the United States.

In discussing this subject, Professor Sargent chose to select those shrubs which are hardy and will thrive over a large part of the New England and middle western states. This classification would automatically rule out rhododendrons and azaleas, for these plants will not grow in a soil containing a large percentage of lime.

At the head of the list, Prof. Sargent placed four of the cotoneasters of Western China, C. hupehensis, C. calocarpa, C. soongarica and C. nitens. These shrubs were all brought from China by Ernest H. Wilson, the famous plant hunter of the arboretum. They are admirably adapted to northern climatic conditions and may be used either for borders or for specimen plants. After flowering, they are especially attractive by reason of the wealth of showy berries they carry.

NAMES CHINESE ROSES.

Of newer shrubs, Professor Sargent named two Chinese Roses, *Rosa Hugonis* and R. *Jackii.* The former is regarded by rosarians as a splendid acquisition to the list of hardy Roses. It flowers early in the season and its blooms are large, single and of a pale yellow, set so close together on the stems that they touch. R. *Jackii* is a Korean Rose which was introduced by Mr. Jack, of the arboretum staff, for whom it was named. It is of a late flowering habit, and its pure white blooms are nearly twice the size of those of R. *multiflora.*

Two Lilacs are included in the list, both from China. One of these, Syringa reflexa, is thus named on account of the pendent habit of the sprays of bloom, so vividly in contrast to the upright position of other Lilac blooms. The other Lilac is a native of northern China and bears the name of S. *Sweginzowii.*

Diervilla florida venusta is the name of a species of the weigela, as this plant is often called, selected to grace this list, as the handsomest of its class.

RARE SHRUB OF EARLY HABIT.

A rare shrub which is of early habit is the Prinsepia sinensis. Its leaves unfold earlier than any other in the arboretum, after which it is covered with almost innumerable yellow flowers.

Corylopsis gotoana is the name of a Japanese shrub which is given a place in the list. This bears drooping clusters of yellow flowers before the leaves appear.

Æsculus georgiana and Spiræa Veitchii complete the list. The former is a dwarf buckeye, with large red and yellow flowers borne in compact clusters. The special value of the latter lies in the fact that it is one of the latest blooming white-flowered spiræas.—*Florists' Review.*

John H. McKibbin
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Harken all ye Flower Lovers

Especially all of you who have grown Dahlias or tried to grow them.

Tried to grow them is more correct especially if you live in that great middle western section where the mercury climbs to 103 in the shade, just when the Dahlia is making its nice succulent green growth, and then later when after weeks of petting, the flowers are opening nicely, along comes J. Frost and makes them look as if they had been gassed.

I am going to find out something.

I want to know what are the best growers, most drought resistant, freest blooming cactus dahlias for this great section of the U. S. A. and to that end I have purchased over one hundred varieties in all colors from the most prominent growers in all parts of the country.

I purchased only varieties that bore the grower's highest endorsements as to the above qualities, attractive color being also specified as a prime requisite in each case.

My next Fall's catalog will list six to ten of the best varieties that have proved themselves by this summer's trials and if you would avail yourself of the dahlia knowledge that will be thus gained only through large expense on my part YOU SHOULD SEND YOUR NAME TODAY for insertion on my mailing list.

Raymond M. Champe
Walled Lake, Oakland County, Michigan
ALL THE BEST IN
Gladioli, Dahlias, Darwin Tulips, Iris, Peonies, Phlox

THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

Vol. VI
Number 8

August
1919

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
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GREEN FOR USE WITH CUT FLOWERS.

[*Written expressly for The Flower Grower.*]

BY H. E. MEADER.

IN REGARD to a suitable green for use with cut summer flowers as per an inquiry in the June FLOWER GROWER, I would say that I have tested quite a variety of material and have had some success.

Perhaps the most durable yet pleasing green of easy access to most every one is the foliage of the edible asparagus.

After the tender shoots are cut this plant sends up a wealth of feathery plumes, which, if sufficiently matured, will endure and look well for a long period with cut flowers.

A very pretty green is the foliage of the cosmos, early or late varieties, the late flowering variety usually making a stronger growth, producing more leafage. However, in the earlier varieties, the flowers are an additional attraction as they will open from buds that are cut quite immature. Cosmos foliage is of a lace-like character, colored a beautiful grass-green and small sprigs may be cut from the stalks without taking the entire branch.

A dish of pansies or other short-stemmed flowers, or tips of Gladiolus spikes bloomed out to the end, arranged with short sprigs of cosmos is most attractive.

There are many grasses of easy cultivation, including several native sorts, which will go far to enhance the beauty of flowers in a vase or basket.

The quaking grass (Briza Maxima) throws up many wiry stems, with tiny seed heads like miniature flattened pine cones, which are delicately poised on slender filaments and quiver at the slightest motion. When dry these turn to a silvery straw color.

Cloud grass (Agrostis Nebulosa) has a very fine dainty appearance; a bed giving a soft misty effect that is extremely airy and graceful. These are both annuals producing freely the first year.

Many of the perennial grasses are magnificent, though requiring the second year to mature, they well reward the extra patience needed to grow them.

GLADIOLUS - *BLUE IRIS.*
(For description see page 74.)

Among these, Pampas grass (Pennisetum Longistylum) and its showy relative (P. Rueppelianum) the purple fountain grass will form clumps from two to three feet in height and produce long graceful plumes of greenish-white and purplish color.

There are many other sorts which are mostly very easy of culture. I have planted some dozen varieties and find all interesting.

Thalictrum Adiantifolium, herbaceous perennial, has finely cut leaves, very similar to maidenhair fern and is of a pleasing deep green color.

The panicles of small whitish flowers appear in June and July and are quite attractive.

A most useful plant is the annual Gypsophila or Baby's Breath. The flowers are produced in great profusion and are so quickly grown to maturity that several sowings should be made during the season, to assure a continued supply. There is a pink form of the above that is highly recommended.

Artemisia Lactiflora, perennial, is of unquestioned value, the creamy-white spirea-like flowers are loosely arranged on long stems three to four feet high, and are light, graceful and delightfully scented.

They are admirable with Gladioli or Dahlias and are in season with these flowers.

The summer Lilac (Buddleia Magnifica) sometimes called Butterfly Bush is a persistent bloomer, continuing from July until frost. Its long spikes of rosy mauve flowers go particularly well with light shades of Gladioli.

Golden-rod and the native wild aster or frost-flower are used in great quantities by city florists, and they are beautiful with other larger flowers.

Some very effective arrangements can be made with the deep green of hemlock, which is especially good as a background for bright colored Gladioli.

If there is woodland nearby, many varieties of ferns can be secured but a little experimenting is necessary as

(*Concluded on page 75.*)

The Fragrant August Lily.

By Bertha Berbert-Hammond.

> To gild refined gold, to paint the lily
> To throw a perfume on the violet
> * * * * *
> Is wasteful and ridiculous excess.
> —*Shakespeare.*

In a secluded nook in my perennial garden, near some lacy ferns, shaded by tall Tiger Lilies, stands a massive clump of Lilies that bears during August a profusion of fragrant, white funnel shaped flowers. As this species invariably comes into bloom during the month of August, it is quite widely known as "The August Lily." Because its separate white flowers which mature one at a time, last but a day it is sometimes called "The White Day Lily," but as the flowers of this variety really open toward *night* and wither by *day*, that name is not a very appropriate one. As its leaves resemble somewhat those of the plantain (though much larger and decidedly more beautiful and heart-shaped than the latter) it is frequently known as "The Plantain Lily." It has even been referred to as "The Porch Lily," for the reason that it is a prime favorite for planting near a porch where its beauty and fragrance can be readily enjoyed during the humid evenings usual to August when it is especially delightful to have

> "The air all perfumed
> With sweets from its zephyr-swung censer:
> And a harmony subtle and sweet,
> As the chiming of far away vespers."
> —*Alice R. Carson.*

The plant is catalogued by the lengthy and somewhat impressive name of *Funkia sub-cordata grandiflora alba*, and a more desirable and satisfactory plant than this variety of Funkia it would be difficult to find. It is perfectly hardy, is exceedingly ornamental, has a long season of fragant bloom, entirely free of pests and is simple to cultivate.

A well established clump of August Lilies will send up numerous flower stalks, each crowned by a cluster of six to eight snow-white buds, one or two of which open late in the afternoon, emitting a delicate odor that is most refreshing at the end of a sultry August day. These flowers remain open during the night and in the sheen of moonlight the chaste, white blossoms gleam and glisten like chiseled marble or as Dorr says:

> "The stately Lilies stand
> Fair in the silvery light,
> Like saintly vestals, pale in prayer."

With the return of the sun, the opened Lilies wilt, but, though the individual flowers fade so soon, there are usually so many clusters of buds, that open in succession that the season of bloom of a clump, often extends well into September. Even when not in bloom, this plant which grows from one foot to one and one-half feet in height with its many handsome, deeply veined leaves borne on long stems, adorns the garden.

The August Lily delights in deep, moist, well-drained, enriched, sandy soil. It prefers partial shade, where it is shielded from the hot glare of the noon-day sun. If given merely slight protection, it will do well on the north side of the house where few other plants will thrive. Unless the dense clumps that soon form, are occasionally reset there is danger of the crowns and roots becoming exposed and injured by heavy frosts. Dividing and transplanting can be successfully done early in the autumn after the plants have ceased to bloom. The new plants should be set quite deeply with three or four inches of soil covering and protecting the crowns. The plants will soon "stool out" and produce sturdy clumps that in turn will bear clusters of flowers of such delicate beauty, exquisite fragrance and subtle charm that they appeal most irresistibly to those of aesthetic taste for

> "The Lily with its golden tongue
> Speaks of a life forever fair,
> Of sweeter harmonies unsung."
> —*Parker.*

American Gladiolus Society.

The premium list of the tenth annual exhibition of the American Gladiolus Society which is to be held in the Arcadia Auditorium, Detroit, Michigan, August 19th, 20th and 21st, 1919, will be mailed to the members promptly, and probably will be in your hands before this appears. Members not having received a copy should notify the Secretary. Any others interested may have copies upon application.

Entries should be made as far in advance as possible so that the Secretary may have the entry cards prepared in advance of the show. Any changes in the entries, either additions to or omissions from the list already filed, should be made in writing and handed to the secretary at the exhibition hall.

The annual meeting for the election of officers and the transaction of business will be held at 10 A. M., August 20th, at the Arcadia Auditorium. As it may be necessary to change the hour of meeting on account of the sessions of the Society of American Florists, members and others should consult the secretary after their arrival in Detroit. Notice of changes as to the place and hour of the meeting will be announced as far in advance as possible.

A. C. Beal, Sec'y.

Additions and corrections to premium offers as published in the March and May issues of The Flower Grower:

SCHEDULE OF PRIZES.

OPEN TO ALL.

H. E. Meader, Dover, N. H.

No. 14—Best 3 spikes *Lilywhite.* First prize, 20 bulbs of that variety; second prize, 12 bulbs; third prize, 6 bulbs.

B. Hammond Tracy, Wenham, Mass.

No. 18—Best vase 25 spikes *Primulinus Hybrids.* First prize, $6; second prize, $4.

I. S. Hendrickson—Emma E. Patterson.

No. 26—Center piece not more than 18 spikes grown and arranged by the exhibitor (any foliage may be used). First prize $10; second prize $5.

Emma E. Patterson, Burlington, Wis.

No. 27—Best Gladiolus spike raised from a cormel. First prize $3; second prize $2.

A. H. Austin Co., Wayland, Ohio.

No. 28—For the best display of the Austin originations. First prize, Silver Medal; second prize, Bronze Medal; third prize, stock of the Austin originations to the amount of $3; fourth prize, stock of the Austin originations to the amount of $2.

The Flower Grower, Calcium, N.Y.

No. 29—To every exhibitor in the Open Class, not already a subscriber to The Flower Grower, one year's subscription.

A. E. Kunderd, Goshen, Ind.

No. 30.—First prize, Gold Medal; second prize, Silver Medal; third prize, Bronze Medal. Largest and finest collection of Kunderd varieties. Quality of bloom to determine award in case of collections of about the same size.

Offers in each of the following classes bulbs to the value of the prizes set forth for each class:

	1st	2nd	
No. 31	—$5	$3	—Best 6 spikes *Purple Glory.*
No. 32	— 5	3	—Best 6 spikes *Myrtle.*
No. 33	— 5	3	—Best 6 spikes *Mrs. F. Pendleton.*
No. 34	— 5	3	—Best 6 spikes *Summer Beauty.*
No. 35	— 5	3	—Best 6 spikes *Mary Pickford.*
No. 36	— 5	3	—Best 6 spikes *Pride of Lancaster.*
No. 37	— 5	3	—Best 6 spikes *Orange Glory.*
No. 38	— 5	3	—Best 6 spikes *Arizona Rose.*
No. 39	— 5	3	—Best 6 spikes *Sweet Orra.*
No. 40	— 5	3	—Best 6 spikes *Butterfly.*

NON-COMMERCIAL GROWERS.

A. E. Kunderd, Goshen, Ind.

Offers in each of the following classes bulbs to value of the prizes set forth for each class:

	1st	2nd	
No. 97	—$3	$2	—Best 3 spikes *Myrtle.*
No. 98	— 3	2	—Best 3 spikes *Purple Glory*
No. 99	— 3	2	—Best 3 spikes *Mrs. F. Pendleton.*
No. 100	— 3	2	—Best 3 spikes *Alice Tiplady.*
No. 101	— 3	2	—Best 3 spikes *Lilywhite.*
No. 102	— 3	2	—Best 3 spikes *Kunderd's Glory.*
No. 103	— 3	2	—Best 3 spikes *Pride of Goshen.*
No. 104	— 3	2	—Best 3 spikes *Mrs. A. E. Kunderd.*
No. 105	— 3	2	—Best 3 spikes *Rose Glory.*
No. 106	— 3	2	—Best 3 spikes *Youell's Favorite.*

No. 107—First prize, Gold Medal; second prize, Silver Medal; third prize, Bronze Medal. Largest and finest collection of Kunderd varieties. Quality of bloom to determine award in case of collections of about the same size.

Gladiolus—Blue Iris.

[*Subject of illustration on front cover page.*]

This Gladiolus is entirely in a class of its own. It is of medium size with eight to ten beautiful Iris blue blossoms open at one time. Entire flower is veined darker blue giving it an attractive appearance. Plant is of good height and bulblet production is also good.

Blue Iris was originated by A. E. Kunderd, Goshen, Ind., and was first introduced by him in 1916.

Hollyhocks.

No hardy garden is complete without Hollyhocks and they are the most stately and impressive plants we have at this season, not excepting the Delphiniums. Sow the seeds now and you will have strong plants for flowering next summer. Too often growers put off sowing them until Pansies and Forget-Me-Nots are started. That is too late a date to secure vigorous plants. While usually treated as biennials, clumps of Hollyhocks will persist for several years and, as they seed freely, little plants will be found springing up in all directions. Some growers prefer doubles, others singles. The latter are to me far the more beautiful. The Allegheny strain is good, while Chater's doubles are hard to beat. For the rust on Hollyhocks, spraying with Bordeaux mixture should be started as soon as frost has left the ground and continued until the flower spikes are well advanced. In some seasons this disease will not show again, while in others it may be quite prevalent. Climatic conditions have much to do with its spread, although seed saved from affected plants will probably perpetuate it.—*Florists' Review.*

The Oldest Flower in the World.

By T. Dabney Marshall in *Vicksburg Eve. Post.*

"Hyacinths and Narcissi are among the oldest flowers in the world. The Hyacinth is named after Hyacinthus, the beautiful Greek boy, beloved of Apollo, and slain in jealousy by one of the wind gods. The Narcissus is named after Narcissus, the handsome youth, for whom Echo, the nymph, pined away in unrequitted love, until she became a mere voice. Hyacinths and Narcissi were flung in profusion in Greek festivals and crowned the brows of Romans in their banquets. Poets in all ages have sung of them. Shakespeare speaks of 'the Daffodils (a species of Narcissus), that come before the swallow dare and take the winds of March with beauty.' Wordsworth devotes an entire ode to them and references to them are innumerable. Indeed one of them is actually catalogued today as 'Narcissus Poeticus.'

"Shelley says of the Hyacinth:

> "Hyacinths, purple and white and blue,
> Flung from their bells sweet peals anew
> Of music so delicate soft and intense,
> It seemed an odor within the sense.

"These flowers, though grown for hundreds of years, were not taken in hand by the hybridizers until about 50 years ago, but the lost time was soon made up. Our great grandfathers, could they come back, would hardly recognize in the magnificent gaudy long trumpeted huge petaled supernisciss of today, the flower they knew in their life time. While the old-fashion trumpet Narcissus, *Von Zion* is only about an inch and a half in diameter, the newer Narcissi, such as *Olympia, Glory of Leiden* and Van Waveren's *Giant*, are from four to five inches across and of the purest gold in color.

"Not only is there an improvement in the size of the flowers, but there is a very large increase in the varieties. Thus there are Narcissi with long trumpets, known as the Ajax class, Narcissi with medium trumpets known as the incomparabilis, Narcissi with very short cups known as the chaliced varieties. Then there are some which have flowers of the same color all over and others which have petals of one color and the trumpets of another. To this class belong the Narcissus, *Empress* and *Victoria*, with trumpets of beaten gold and petals of shimmering silver, they are the bi-colors. Then there are also Narcissus which have not one but many blooms to a stalk. These are the Narcissus polyanthus. The flowers of these are nearly always densely perfumed. To this class belong the so-called Chinese Sacred Lily, grown so frequently in pebbles and water. All Narcissi are perfectly hardy here and are of easiest growth and culture. It is doubtful if even the soil of Holland is better suited for them than that of Mississippi.

"The United States government and private growers have been experimenting with them quite extensively on the Pacific coast and with much success. Private growers also near Norfolk, Va., and Brunswick, Ga., have made a success of their culture. They put on the market last season several million bulbs and demonstrated that the soil here can compete with that of Belgium and Holland, which countries up to the great war, had practically supplied the world with bulbs of this class.

"The reduction of the bulb area in Holland and the torpedoing of the ships in which some of them were laden, compelled our florists to look elsewhere for supplies. It would be only a matter of time before the United States could grow all its own Narcissi, and it doubtless would do so, but for the fact that labor is so much cheaper and more expert in Holland than here that it is doubtful if it would be commercially profitable to do so.

"It may, however, turn out with them as it did with the Gladiolus growers. Formerly the United States depended entirely on foreigners for this magnificent summer flower, but now not only do we grow them by millions, but what is perhaps the most popular Gladiolus in the world, *Mrs. Frank Pendleton*, was originated here in the United States, being the product of that leading hybridizer of the west, Mr. A. E. Kunderd, of Goshen, Ind."

The Gypsophila.

(BABY'S BREATH.)

By Bertha Berbert Hammond.

[*Written expressly for The Flower Grower.*]

For the purpose of supplying an artistic and dainty setting for garden or for cut flowers, the various sorts of Gypsophila (variously known as Baby's Breath, Fairy's Breath or Gauze Flower) cannot be excelled. The use of a few of the misty sprays of Gypsophila will do much to bring into harmony the various sorts of flowers comprising a bouquet. It is a mistake to try to combine too many kinds and colors in one bouquet. One kind, or at most two kinds, that harmonize in color will be found sufficient. A few flowers of a single variety with a setting of green is apt to prove artistic as more dainty greenery and fewer flowers give a charming and satisfactory effect. How often a bouquet that might have been "a thing of beauty" has been completely spoiled by a poor selection of flowers and lack of taste in the arrangement and combination of colors!

There are both annual and perennial varieties of Gypsophila. All are very effective in the garden or for use with cut flowers. Gypsophila paniculata which grows from 2 to 3 feet in height is a fine free blooming, hardy perennial of easy culture. It will thrive in comparatively poor soil, endure drought and seems free from pests. New plants may be easily obtained by division of old plants or may be readily started from seeds. The fact that the annual varieties usually make rapid growth is an advantage not to be underestimated and makes them valuable for use with early blooming varieties of flowers. Gypsophila Muralis begins to produce its dainty star-like flowers on gauzy sprays when the plant is less than a foot high and continues to bloom for a long season. It will self-sow quite readily.

There are various kinds of ferns, ornamental grasses, asparagus, Valerina or garden heliotrope that are used to give grace and charm to bouquets, but the feathery sprigs of the Gypsophila cannot be surpassed for this purpose. The lovely, dainty flowers on graceful, slender, fairy-like stems harmonize to a nicety with and enhance the beauty of any flowers with which they may be mingled. A more refined or exquisite material for completing bouquets, it would be difficult to imagine. No matter how beautiful the flowers may be, when combined with the delicate vapor-like sprays of the Gypsophila, a mystic charm is surely added.

Scale of Points for Judging Gladioli.

By S. E. Spencer.

[*Written expressly for The Flower Grower.*]

Has everybody forgotten that we have a "Scale of Points" for Gladioli? It would seem that such a scale is necessary for the use of judges at all exhibitions but I have never heard it mentioned or known of its use at any of our shows.

Resistance to Disease	5
Texture of Flower	10
Duration of Bloom	10
Size of Bloom	10
Color of Bloom	15
Form of Flower	10
Form of Spike	10
Stem (Length and Stiffness)	10
Number of Flowers on Spike	15
Vigor (Aside from Disease Resistance)	5
	100

The above scale was adopted at the Boston meeting in 1911 and I suggest that it be placed in the hands of all judges so that we may have greater uniformity in awarding prizes.

I have known of judges who held that a prize for the "best yellow Gladioli" must be awarded to those blooms showing the best yellow color regardless of size or quality, and they were backed up by officials of the American Gladiolus Society.

It will be noted that in the official scale of points color counts 15 points, and "number of flowers on a spike" is equally as important, while texture, size, form and stem are all to be considered in choosing the best.

This is as it should be for any arbitrary decision based on color alone will be entirely misleading to those who do not attend but watch the awards for the purpose of learning the names of the best or prize winning varieties.

I would suggest also that judges and committees agree on a minimum number of points which any flower must attain to win first. It does not seem desirable that inferior stock should be awarded prizes simply from lack of competition.

Green for Use With Cut Flowers.

[*Continued from page 73.*]

some kinds wilt quickly. The dagger or rock fern is, perhaps, the best known and is found almost all over the United States in cool, shady ravines in woodsy locations.

Trying out different combinations of foliage and flowers is a pleasant task and a very unique and effective arrangement may sometimes be hit upon accidentally. I remember a basket seen some years ago at an exhibition composed of bright scarlet Gladioli with deep green oak leaves and which was much admired.

Bulletin No. 8, American Peony Society, A. P. Saunders, Secretary, Clinton, N.Y. Thirty-two pages and cover. Report of annual meeting, interesting papers on the Peony, etc., including an article by the Secretary entitled "How to Hybridize Peonies."

The Flower Grower

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Growers are invited to contribute articles or notes over their own signatures, but the Editor reserves the right to reject anything which in his judgment is not conducive to the general welfare of the business.

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Vol. VI August, 1919 No. 8

> "*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

Suggestions for Selling.

It is very evident that there are some growers who are capable and efficient in the work of producing a fine crop of bulbs but sadly lacking in salesmanship when the time comes to dispose of the surplus.

There are four classes of customers to whom a surplus can be sold; amateurs, growers, retail dealers and jobbers. Now let us suppose a grower has bulbs which at a fair wholesale valuation are worth $1,000, which method will give best results?

The jobbers offer the easiest and quickest solution, they buy in large quantities, they pay cash and they buy early in the season, consequently their offers are accepted by many growers to whom quick cash is more important than future profit. Of course these jobbers buy to sell again, mainly to growers and retail dealers and they must have a good margin of profit and they will offer the owner $600 to $750, so that the actual cost of the sale made in this way is really $250 to $400. In other words the grower pays the jobber a very large commission to sell the bulbs and save the expense of advertising, correspondence, etc., when he could by spending one-half that amount in advertising his business sell the bulbs for $1,000, and at the same time gain friends and customers and build up a "good will," an element in business which is worth real money.

The ambitious grower will not be satisfied with this very simple method of wholesale advertising. The next step is to go after retail or mail order trade which will give him perhaps $1,500 for his crop, and this will call for an additional expense for a retail catalog and an advertising program which will bring orders and inquiries from which a mailing list can be built up. This branch of the business is the most profitable, requiring a fair amount of business ability, very careful attention to details of growing, sorting and shipping.

Selling at wholesale to growers and dealers is somewhat less profitable and involves much less trouble and advertising expense, while dealing with the middleman or jobber yields the smallest returns in cash and builds no secure foundation for future business.

Leaving the future out of the account, the problem is very simple. How much should the grower spend in advertising, discounts or commissions to sell bulbs to the value of $1,000?

If he has a good reputation and his stock is already favorably known among dealers, ten to fifteen per cent will do it, but a beginner can well afford to spend twenty per cent for advertising, circulars, stationery and at least one good exhibit at a first class flower show.

S. E. SPENCER.

A Question of Prices.

The price question comes up repeatedly and it deserves constant attention. There seems to be an inclination among flower growers when they first enter the commercial end of the business to make their prices too low. This is more often because they do not know what their costs are than from any desire to cut prices. Most people entering a new business are inclined to undervalue their own labor, and when first starting in business their own labor is one of the big items which they do not, therefore, figure. Growers should remember that their labor would be worth as much if sold to someone else, possibly more than it is in their own line of business, and, therefore, they should not undervalue it in connection with the making of prices at which their product is sold.

Labor costs apparently will be fully as high as last year and it would seem that the price of flower stocks of all kinds should be fully as high, if not higher the coming year, than they have been during the past year. The problem of "keeping up with rising costs" has bothered many experienced business men during the past few years and the novice in commercial floriculture is urged to give this part of the business very close attention.

MADISON COOPER.

Prizes for the Amateur.

The preparing of a prize list for a flower show is not the easiest task in the world and especially from the fact that no general principles governing same have been evolved. Some seem to think that the amateur should be encouraged by offers of cash, but we believe that this is absolutely wrong. No amateur who is at the same time a good sportsman is looking for cash prizes, but would be much better pleased with what may be called merchandize prizes. Prizes should consist of honor awards, and preferably suitably engraved cups and medals which the winner may keep as evidence of his prowess and activities. Money prizes are soon spent and should have little value to the true amateur.

The time is nearly here again when the unsophisticated will be solicited to send flowers to fairs and flower shows on somebody's promise to stage them properly. Our advice is—don't do it. No person on earth will stage your flowers as you could or would do it yourself even though their intentions were of the best, and sometimes this latter point is not always a sure thing.

Go yourself, and take with you, or send properly packed, all the flowers that you have in good condition for display. The flower shows need your help, but sending flowers for someone else to stage, usually leads to dissatisfaction all around. An experience in staging flowers at a flower show will give you more information than you can secure in the same length of time in any other way.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

One Vacation.

BONNIE, in pink morning dress and white slippers, came tripping down the steps just as the express messenger drove out of the yard with the last of the previous day's cut of Gladioli. Her father was a leading florist of the town, which aspired to the name of city, and for many years had grown Gladioli for the wholesale trade, shipping in quantity to large cities. It was the height of the Gladiolus season and markets were glutted, but these were the new modern varieties and found ready sale. She had helped to cut and carry, count and pack, the large shipment that had been started on its all night journey to a distant city, finishing with the morning's consignment to a nearby town. She watched the driver with some dismay as he chirped and pulled the reins in a series of jerks to which the horse sleepily responded by flicking his ears. It was plain that neither the horse or driver would worry whether the boxes marked - Cut Flowers—Perishable—No Delay, were in time for the train or not. Express packages were all alike to them. "And I hurried so," she murmured, then turning quickly exclaimed, "Now for my vacation. No more cutting Gladioli for me this month, tedious old things." Then added half apologetically, "but O, so lovely." Thoughts of vacation day pleasures were in her mind, and catching up a slender graceful Gladiolus spike loaded with open blooms, she held it coquettishly over head and danced across the emerald lawn, humming, "We'll dance all night until broad daylight," then more soberly, "I wonder how and where I can *best* spend my vacation."

Shrieks of terror from the Sultan of the chicken-yard and his frightened harem, mingled with the cluttering of a great dirigible balloon sailing leisurely and low, and she recognized the voice of a friend in the teasing invitation to "Come up and have a ride." As she waved her bit of kerchief in reply, the monster rose high, circled the town, showing, by many maneuvers, the control of a master hand, then settling low, became almost motionless over one pretty home from whose kitchen door the mother, with glistening eyes, watched the driver in the sky.

"Isn't it wonderful! I never saw one before," and Bonnie, startled at the sound of a strange voice at her elbow, turned and beheld a little middle aged woman, with a sweet expressive face lighted by large velvety black eyes. In answer to her questioning surprise, the stranger explained, "I heard about your Gladioli and came to ask you to tell me about them." "Where did you come from?" asked Bonnie, recovering her voice. "I live in the woods, several miles from here, and we, my sister and I, have a little land in the open where we have a garden and some Gladioli. We haven't much land, just a little, and an agent for a nursery company told us that we could make money growing Gladioli. He told us of a variety named *America*, that he said was sure to sell, and he said that Gladioli would sell at such high prices that we could easily buy grain for our horse and cow, and have money to put in the bank; that it was *easy* to sell the flowers, and bulbs, too. They are blooming now and we do not know how to sell them. There are other kinds mixed with the *America* that he said we might have *free*." Bonnie thought of her vacation. "It would be necessary for me to see your Gladioli growing," then hesitatingly, "I am sorry, but fear that I cannot help you because I am going away." The little stranger started to go, then turned to say goodby, and Bonnie saw her face. It had paled, her eyes were misty with tears and lips quivering. "Does it mean so much to you?" asked Bonnie quickly. She nodded, then said, "It means everything to me, for I have used all my savings to buy the bulbs." "Wait a minute," said Bonnie, and rushed into the house. "Mother, this little woman out here has spent every cent she has for Gladioli and doesn't know what to do with them. I think I had better try to help her a little and start on my vacation a day later. It will mean a day in the woods, and that will surely be nice."

Leaving the street car and following a path through a wood thick with underbrush, a walk of nearly a mile brought them to the little home. "How beautiful!" exclaimed Bonnie, for the house covered with vines was a veritable bower of beauty, and, birds nesting among the vines were as much at home as the little woman herself. Inside, it was neat, cool and cosy. Decayed stumps and logs were covered with trailing nasturtiums and other vines, and wild grape vines festooned nearby trees. While the little woman prepared dinner, Bonnie visited the Gladiolus patch in the open. "What a jumble! How could anyone have sold her such a mixture as that for *America*. It's the same as stealing. I will help her if it takes *all* my vacation." Later they went to the patch together and Bonnie told her that it was best to dig out and destroy the inferior odds and ends of varieties that were mixed in with the *Americas*. "It is called roguing," she explained, "and even choice varieties are rogues when out of place. A few of those mixed in here are good so we will stake and mark them carefully for they will give you a little beginning in those varieties." With trowels they begun the roguing, digging each out, being careful to leave no bulblets. "It's a good thing that your bulbs are all blooming size," said Bonnie. "We could never get pure stock from bulblets. It would be better to throw them away. A variety *must be pure to sell.* Now when you dig these Glads, take out the ones we have marked first. Label them carefully and put them where they cannot become mixed in storage or when you are rooting bulbs," and, as the little woman looked inquiringly, she continued, "yes, the rooting is no small job, but maybe I can come and help you."

The flowers had only well begun blooming and each morning brought new rogues. "There are *some* good sellers among your rogues. This large creamy one is *Schwaben*. It originated in Germany, and here is *Mrs. Frank Pendleton, Jr.* This, and this, are *Gretchen Zang* and *Evelyn Kirtland*, both valuable for florists' use and named for two little Ohio girls. Their names and the face of one of them has gone around the world. This beautiful mauve variety is *Herada* and was named for a dear old lady whom nearly every one in her community calls Aunt Rae. Your flowers are coming nicely now. You see it is necessary to have enough of a kind for a bunch which is sold as 25 spikes, but it is better to make it 27 which allows for unexpected damage in transit, and then," she added smilingly, "it is nice to do better by them than they expect you to. I think we will try to get some shipping boxes soon now. We use orange boxes." "O, I am sure I saw them," interrupted the little woman. "I met the express man soon after he left your place. I thought the green tips looked like Gladioli." "There are many kinds of shipping packages," said Bonnie, "but I believe the orange box would be the most convenient for you. You can get them from the nearest grocer for from three to five cents each, and with some strips $\frac{3}{4}$ in. square nailed in each corner to extend the height according to the length of the spike. You can do it yourself if you can use a hammer. Nail them in such a way that they will flare a little at the sides and then nail a light strip of lath around the top. Line the box with papers like you saw ours. Tie the spikes in bunches, 27 you know, and wrap each bunch also in paper. Stand them on end and pack closely. I love to do it." She had forgotten that only a few days before she had pronounced it tedious work.

"Hello here," and Bonnie's father stood before them. "O, father, how glad I am to see you and we need you so much, too. We want boxes and"—"but what about that vacation of yours," asked father. "I had forgotten it completely," replied Bonnie, then exclaimed excitedly, "I have it, we will go to the exhibition of the American Gladiolus Society and take her and her flowers with us!"

Mrs. A. H. Austin.

A subscriber wants information about propagation, harvesting, storing, etc., of the Tritoma. Also information about the new early flowering Tritoma Hybrids.

WAYSIDE RAMBLINGS

WILD FLOWERS.

With cool and occasionally rainy weather, my wild flower garden has been and is very beautiful this year. After the Hepaticas, Bloodroot, Dicentra and white and yellow Violets came the Nodding Bellwort (uvularia) and two kind of Trilliums, the latter unusually large this year. My White Mertensia bloomed but does not grow much yet. The blue Mertensia (Virginia Lungwort) is abundant in my yard and conveniently dies down and can be mowed over soon.

A very pretty minute flower is the Tiarella, with upright racemes of little crown-like white flower. Along with some clumps of Hepatica and Jack-in-the-Pulpit which I brought from the Maquoketa Glens (" Devil's Backbone") last summer, there came up unexpectedly some Claytonias or Spring Beauty. The wild Geranium or Cranesbill is about out of bloom and the giant Solomon's Seal is setting berries. These, with the different native ferns, give a very graceful and tropical appearance to the two beds, one of which is a mound around a black oak. The Water leaf (hydrophyllum) is quite pretty but is a little too willing and I pull it up occasionally where it interferes too much with other things.

The Actea or Baneberry has bloomed with a foamy panicle of white flowers and will soon have large clusters of polished dark scarlet berries. One of the pretty things which grows abundantly in places here on the Iowa prairies is the Shooting Star (Dodecatheon Medea) in colors from white to pale pink; it domesticates well as do the several kinds of wild Phloxes. There will be other things later as the season advances, and always something interesting. I forgot to mention the False Solomon's seal which resembles the real in shape of plant but the leaves are imbricated and, instead of bells along the stem, it has terminal panicles of fine white flowers (Smilacina racemosa.)

GEO. S. WOODRUFF.

DIVIDING GLADIOLUS CORMS BEFORE PLANTING.

It takes a real enthusiast to pay a dollar for one little Gladiolus corm, and, by the way, little is the right word, too, in many cases where one buys these new and rare varieties.

Occasionally we are told that a variety is a great multiplier, but when this statement is not made, generally it will be found that the increase is not large.

For the past three years I have been taking no chances on natural increase, but use my pocket knife freely.

A few years ago I bought a lot of corms that were affected with dry rot. The husk was taken off of all of them, which practice has been kept up ever since. After taking off the husk the affected part was cut off and the sound part planted providing that it contained a living eye. They grew all right and I drew the conclusion that if a perfectly sound corm were divided each piece would grow as rapidly as if one side were cut away, and further that any piece that contained a live eye and a portion of the root system would grow just as well as half a corm.

Last spring I cut all corms that cost 25c. or more and were an inch or larger in diameter, into four pieces, being careful to see that each piece got its share of the base or root as well as a live eye. You cannot, of course, depend on getting four flower spikes, but my experience is that you will average three spikes to a corm divided into four pieces, and you will have four good corms at digging time. Hereafter I shall cut the 1 in. to $1\frac{1}{4}$ in. corms into three pieces each only.

Before I began dividing my corms at planting time my limit for purchase price was 50c. per corm, but this year I am planting corms that cost as high as $2 each.

I paid but little attention to cormels generally, but I am of the opinion that I will get at least as many in number as if the corms were planted whole, and besides the cormels will be much larger.

T. B. TIPPETT.

BLOODROOT AND SCILLA SIBERICA.

I had a combination of flowers in my garden this spring which appealed to me strongly, and I thought it might interest your readers.

I have a quantity of Bloodroot which I dug in the woods. I also have some Scilla Siberica. These bloom at the same time in April and the blue and white flowers make a very pretty combination.

I am going to get more Bloodroot and plant the Scillas right among them. They are right in the shrubbery, but bloom before the leaves are out and are not hidden from view.

T. A. KENNING.

MARKING LABELS FOR THE GARDEN.

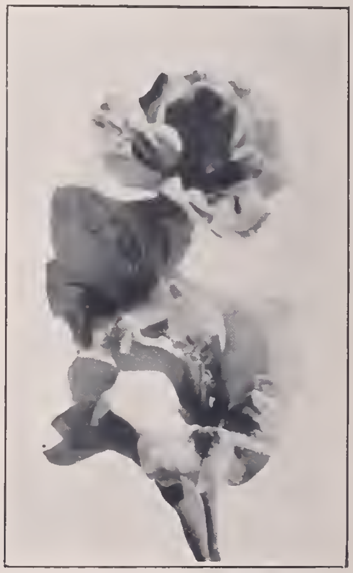
Noting the different opinions expressed from time to time in regard to the best kind of labels to be used in field or garden, and as no one has yet mentioned the kind that I prefer and use exclusively, I am sending you a sample of it. You will note that it is a piece of card-board about $1\frac{3}{4}$ x $2\frac{3}{4}$ inches with a fine cord looped into an eyelet at one end, the cord being long enough so that it can be looped around the flower stalk. The samples I am sending have seen one season's use and are not much the worse for wear. In fact, I usually expect to use them several seasons, though that is a minor consideration as they can be bought cheaply, I think for about 15c. per hundred. There are both larger and smaller sizes if preferred. This label can readily be looped around the stalk of almost any plant or flower, and it comes with the string inserted. It can be written upon one side or both sides with an ordinary lead pencil, and while the writing is quite durable, yet it can be erased if desired. This label leaves almost nothing to be desired. It is waterproof, easily attached and easily removed, and will cost but little to lay in a new stock every year if necessary.

WILBUR A. CHRISTY.

DOUBLE GLADIOLUS FLOWERS.

Last year I reported to THE FLOWER GROWER that *Sulphur King* had brought forth double flowers in 1917. This corm was set aside, but it did not show unusual flowers in 1918.

However, an unusual experience with *Pink Beauty* which the accompanying photograph shows may be interesting. When this spike was about to open it was seen that it was not normal and suspecting that it would throw double flowers we prepared to photograph it.



There were seven blooms on the stalk in all, three of them being double and one of them had two blooms on one stem, a twin flower. The double blooms had from eleven to sixteen perfect petals.

Except for additional loveliness there was nothing abnormal or misshapen about the blooms.

We have labeled this corm for testing this year and will report on same.

ESTELLE M. GILBERT.

TIME FOR TAKING UP DAFFODILS.

Daffodils *Victoria* and *Emperor* should do well in any good garden soil or in sod if planted at the right time, and if good bulbs when planted, and they should continue to bloom and be good bulbs if not moved at the wrong time. They should be planted in the fall, and should *not* be taken up in fall, winter or spring. The time to take them up is early summer when the leaves die down.

B. C. AUTEN.

TULIP CULTURE.

I have read with interest the answer to "V. E." by Mr. Clute in the July number.

If the April freezes are responsible for the trouble referred to I believe there must also have been contributory causes. My Darwins budded very early this season and one of my neighbors had them showing buds early in March. They repeatedly froze in March and April, the leaves in the morning sometimes having a watery appearance, yet they all revived and not a plant became diseased or died. Both myself and my neighbor had some of the finest blooms I ever saw; some of them with stems thirty inches tall.

I think perhaps Mr. Clute hit the right idea in his suggestion to "treat 'em rough." The only good thing I do for them is to have the soil in which I plant them deeply cultivated and well drained. For the sake of having good blooms I rake in a little fertilizer and wood ashes between the rows two or three weeks before blooming time. I keep the beds weeded during the summer and in the seasons when I do not intend to dig the bulbs I grow annual plants among them.

I have large numbers of Gladioli and in the fall I scatter the stems of these in a thin layer over the tulip beds. This is all the protection I give them and I do not do this until about the time the ground freezes up for the winter. This covering is removed just as soon as possible in the spring.

Under these conditions I do not believe April freezing will do any harm but it may be that under different treatment or soil conditions they might be more susceptible to this freezing.

I believe that mulching with manure is bad for tulips and that whatever covering they have should be put on very late, since the object is not to protect from deep freezing but from too early thawing in the spring.

GEO. A. WHITNEY.

DAYLIGHT SAVING.

I read with interest Chas. Gersdorff's article on this subject in THE FLOWER GROWER for July. I most heartily agree with his views about the desirability of those who work in office, laboratory, store or factory spending an extra hour in the fresh air and sunlight. He thinks the farmer could readjust his working hours without great inconvenience.

It never seems to occur to such people as Mr. Gersdorff that it would be far easier for them to readjust their man-made hours of labor than it is for the farmer to work against the hours of nature. A man who works in office or laboratory can start his work and quit an hour later or an hour earlier than usual and accomplish as much as heretofore. But the farmer cannot work in the hayfield, tobacco patch, garden or do many other things before the dew has dried, and pushing the clocks ahead an hour sets the farmer just that much behind. There is no way in which the farmer can make the dew dry off an hour earlier, force the hens to go to roost by the new time, induce the cows to come from the pasture before the sun gets well into the west unless he goes after them.

The farmers put up with the loss and inconvenience of the daylight saving law as a matter of patriotism, believing it to be a war emergency measure, but now that the emergency is past they have shown their almost unanimous opposition to its continuance as a permanent measure.

EDWIN C. POWELL.

STALNAKER'S COLOR HARMONY AND TINT BOOK.

In your March issue there appeared an advertisement of Stalnaker's "Gladiolus Color Harmony and Tint Book," and I lost no time in writing for a copy. It is the first attempt at color classification of the Gladiolus I have come across. The author states that it represents four years' work, and I can quite understand it. It appears to be a straightforward attempt to tackle a difficult subject and the result is a most helpful guide. The lists include about 250 varieties, of which nearly four-fifths are described and priced. Of course, many names new to me are included but, on the other hand, most of the well known varieties are to be found in the catalogue. There was one name *Marie* which attracted my attention under Class E, salmon pink. This name I have always associated with a blue variety.

SMILAX.

UNUSUALLY SHORT TIME FROM PLANTING TO BLOOMING OF GLADIOLI.

In the July number of THE FLOWER GROWER I noticed a list of Gladioli giving length of time from planting to blooming. We have lowered our own record this year, and also any record I have ever seen published.

Pink Progression planted May 16th opened her first blooms on July 4. While this morning (July 7) Kunderd's *Primulinus Butterfly* planted at the same time is open in all its glory. Several spikes of *Pink Beauty* will be open tomorrow. *Jessie, Halley* and *Roanoke*, are showing color, while *Mrs. F. Pendleton, Matthew Crawford* and others are throwing up numerous strong spikes. These varieties were all planted the 15th, 16th and 17th of May in ordinary garden soil, and have had no special care, no fertilizer, and were not watered at any time.

All varieties while planted late are making a fine growth and will apparently come into bloom in an unusually short time.

WALTER J. WHITELEY,
(Central Michigan.)

Note by the Editor—

Mr. Whiteley's results above indicated are unusual. It is doubtless owing to the unseasonable heat of June that the varieties indicated have come into bloom in so short a time. It will be noted that *Pink Progression* thus has made a record of forty-nine days from planting to blooming, while several other varieties are only a few days behind.

It might be pointed out in this connection that the various records which have appeared from time to time in THE FLOWER GROWER can none of them be taken as positive and absolute for the reason that weather conditions, condition of corms when planted, etc., all have their influence.

DATES OF JULY BLOOMING GLADIOLI.

The following are varieties of Gladioli that bloomed with me in July, and as I have records covering three years on the most of them I am glad to furnish it. May be able to furnish you later reports of the August blooming varieties and also a further list of September blooming varieties:

	1916		1917		1918	
	D.	M.	D.	M.	D.	M.
Alice Tiplady	28	7	1	8	28	7
Altair	25	7			23	7
Anita	31	7	28	7	30	7
Ariadne			31	7	29	7
Arlon					30	7
Astra					30	7
Berkshire	29	7	9	8	31	7
Canonite			29	7	24	7
Countess Torby			27	7	21	7
Duke of Richmond	31	7	13	8	29	7
Duc de Massa			25	7	26	7
Early Sunrise	20	7	22	7		
Erectus			29	7	29	7
Elberton	8	8	24	7	21	7
Faust	28	7	21	7	24	7
Forain			24	7	21	7
Fragonard			28	7	30	7
Firefly	31	7	22	7	29	7
Golden West	31	7			29	7
Halley	19	7	18	7	14	7
Incontestable	26	7			22	7
La Nuit	1	8	26	7	31	7
Lily Lehmann	30	7	29	7	22	7
Letitia	22	7	7	8	27	7
Lilywhite	24	7	3	8	22	7
Linton			26	7	23	7
Master Wietse	28	7	3	8	28	7
Mrs. R. Wordsworth	27	7	24	7	25	7
Myrtle	31	7	21	7	22	7
Maculatus			29	7	27	7
Mary Pickford	26	7	14	8	19	7
Nopal					29	7
Nova					25	7
Prince of Wales	19	7	22	7	19	7
Phoebus	26	7	2	8	28	7
Pink Beauty	5	7	8	7	4	7
Rev. Ewbank	27	7	23	7	23	7
Salmon Excelsior	28	7	24	7	31	7
Salmoneus			21	7	24	7
Saphir			25	7	27	7
Sedan	1	8	30	7	28	7
Seneca			26	7	28	7
Topaz					29	7
Vega			29	7	27	7
Zenobia					29	7
Jean Dieulafoy	30	7	28	7		

SMILAX (England.)

PLANTING USES OF GLADIOLI.

Requiring but little space, they are just the flowers to use as fillers for bare spots in perennial beds and open spaces in newly planted shrubbery plantations. Planted in groups of three, six, or a dozen or more all of one color they are very effective in adding life and gayety to such plantings and in relieving the barren appearance.

H. W. GROSCHNER.

THE IRIS.

The Iris—(Broad Leaved.)

[*Written expressly for The Flower Grower.*]

BY BENJ. C. AUTEN.

There is no Iris but is exquisitely beautiful, not only in color and in detail, but in every color and in every detail. Yet I am not an Iris enthusiast. It is in its general characteristics that the Iris is lacking. It is mushy in substance and flabby in general appearance, and its wilted blooms must be carefully removed every day if the plant or plantation is to look respectable, a task impossible for a busy mortal.

For one who likes to study and to dream over individual blooms, any Iris is good, except that, like the colonel's whiskey, "some are better than others." For general effect, however, and for color effect in masses, a variety is better that does not sample up a whole millinery shop in each blossom: that is, a one-color variety. A bed of the many-colored flowers is simply a mess of speckles; yet, there are some colors that do not occur otherwise, and some types. *Koenig* and *Black Knight* are grand varieties, too noble to be ignored, and some of the frilled ones are too dainty to do without. *Madame Chereau*, the most often named of the frilled varieties, I do not like, its color is too dull. *Gazelle* is better.

In a flower of so wide a variety of colors there must be, according to general principles, colors that are incompatible. Tastes vary, however, and fashions change. There are color combinations now fashionable that in my early days would have been insufferable. *Pfauenauge*, is it a dream? Or is it a nightmare? I'll not dispute either answer to either question, yet the general color effect of this variety certainly is not indispensable in mass planting.

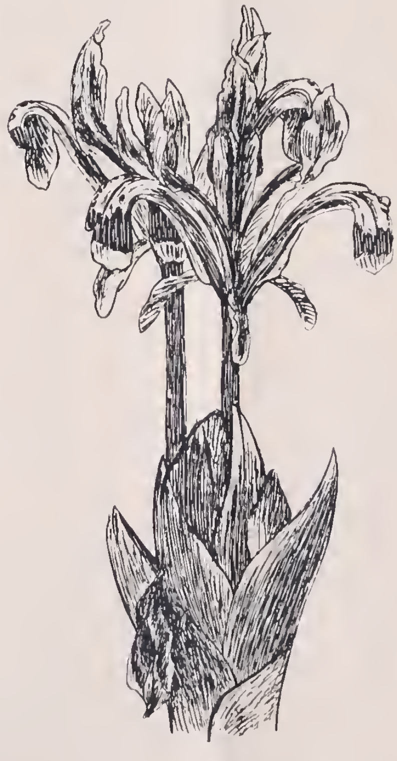
In the one-color varieties, of the yellows I believe *Flavescens* is still the best, even though its color is rather non-committal. For a very light blue I like *Pallida Dalmatica*. *Celeste* is too ghostly pale. *Ciengialti* is fine as a medium blue, more crinkly, and therefore more shimmery than *Pallida Dalmatica*, but fully as fine a flower, even if small. In dark blue I prefer *Argus* to *Gertrude*, as the color of *Gertrude* is rather lifeless. *Kochii* is a rich purple, and gives the darkest effect in mass planting of any Iris I know.

Innocenza to me is not only the most beautiful of the white varieties, but the most beautiful of all Irises, though *Fairy* is an awfully close rival for both positions. As both of these are very late, it is well to name an early kind. *Florentina*, the common one, though large and imposing, is dull in color. *Germanica Alba*, I think is better.

A pink Iris I do not want around me at all. It is pretty to look at once, but disagreeable to live with. Some of the most beautiful of the Irises to study in the hand are too pale in color to be effective in a planting, except with carefully arranged background. *Lord Grey* is a sample of these.

Iris Rosenbachiana.

It is a pity that this Iris is so scarce and so little known, for it is not only one of the earliest to flower in the New Year, but also one of the most gorgeous of all. It must be confessed at once that it does not do itself justice unless it can have a roof over its head when in flower; but then, what flowers have we that can withstand the weather in January? Frost it can stand with impunity, and though, when the ground was frozen solid a few weeks ago, the development was temporarily checked, the plants are now (March) as happy and the flowers as numerous as though we had had no frost at all. My own plan is to grow the plants in cold frames through which air circulates freely at all times. Years ago, when I first saw the flowers of Iris *Rosenbachiana*, I vowed I would not rest until I had a whole frame full of specimens; and now that I have several frames full of flowering bulbs of this Iris I do not regret my vow. All my present plants have been raised from seeds here, and as seeds are sown every year, fresh plants come into flower every year, so that the length of the period of four or five years that elapse between the sowing of the seed and the first flowering of the bulb is no longer realized.



IRIS ROSENBACHIANA.

The bulbs of Iris *Rosenbachiana* need careful handling, for each should have attached to its base four or five long store-roots, which are swollen into tubers almost as large as the bulb itself. They should be planted early in the autumn in rich, light soil not deficient in lime. The apex of the bulb should be about two inches under ground, and the lights can remain off the frames until the thick shoots begin to break through the surface early in January. Once the soil is pierced, development is extraordinarily rapid, and the tips of the leaves are barely more than an inch above the soil before the first flower has developed. Each individual flower lasts a week or ten days, and as strong bulbs produce three or four flowers in succession, the display is spread over a considerable period. The flowers are stemless, and the ovary is quite sessile in the axils of the leaf, as in other Juno Irises. The flower is raised on a dark purplish brown tube three inches or four inches in length, which carries it well above the foliage. The illustration shows a four-flowered plant. Two flowers are fully expanded, one has withered already, and the fourth is just emerging on the right.

The most conspicuous parts of the flowers are the large crests of the style branches, which stand almost erect above the strap-shaped falls. As in all the Juno Irises, the falls and the standards are, as it were, inverted, so that the latter extend horizontally or even hang down, while the former arch high above them.

If I. *Rosenbachiana* ever became a florist's flower—a fate which will probably never befall it—there would be no end to the series of named varieties, for each seedling seems to differ from its fellows in its coloring. In every one there is the contrast between the particular shade of blue or red purple and the gold or orange of the prominent crest. The ground color is either white or a pale bluish grey more or less suffused with a pale shade of the purple, which is most intense on the blade of the falls. This patch of vivid color sometimes covers the whole blade, but more usually the tip is much paler or even white. In rare cases the purple is almost wholly absent, and only occurs in the veins on the haft of the falls, the rest of the flower being a pale creamy yellow.

It is possible, though not certain, that under the name of I. *Rosenbachiana* we have also in cultivation a second species, Iris baldschuanica. Further supplies of collected bulbs from Russian Turkestan could alone help to settle the question, but my impression is that there are either two closely allied species or, at any rate, well-marked local forms. The earliest-flowering forms have golden pollen and gradually tapering roots of a pale brown color, while the later forms have white pollen and more abruptly narrowing roots of a whiter color. Among my own plants I am afraid there are now hybrid intermediate forms, so that I have little hope of settling the question without fresh material.—W. R. DYKES in *The Garden* (English).

Short Hills Garden Club.

Our Club has arranged its Eleventh Annual Dahlia Show for Friday and Saturday, September 26th and 27th, at the Short Hills Club. Admission free to the public Friday afternoon and evening, and all day Saturday.

The classes are open to all amateurs. There are to be classes for flowers other than the Dahlia, special classes for flower arrangements and a class for children's exhibits.

As our shows have won well merited praise from the highest authority on Dahlias, we hope that the public will take advantage of the Club's hospitality.

MRS. CHARLES H. STOUT,
Secretary.

THE PEONY

How to Make the Most Money Out of an Acre of Peonies.

By Wm. A. Peterson, in *Minnesota Horticulturist.*

I DO NOT propose to discuss isolated cases of extraordinary profits obtained by producing new varieties of Peonies or even by cornering the market on a rare sort. In fact stocking up heavily on some new "queen bee" of a Peony Show frequently finds the grower five years later, offering the same at twenty per cent of the original cost.

There may be a dozen American growers whose extensive catalogues and large advertising of several hundred varieties make their profit on their acre of soil a bonanza.

There are just two ways to make money out of Peonies—either by selling the roots or the flowers.

Leading up to the subject of profits, let us consider the three contributing factors thereto; first, the *root;* second, the *soil;* and third, the *labor.*

The *roots* should be young and healthy. If divisions are used have them cut from plants not over four years old and remove all but two strong eyes to each piece of sound tuber. The use of one or two year old plants saves some time, but on a given investment the divisions are more economical.

Most people prefer blooms of solid colors, and mass together in lawn planting or in bouquets those of the same shade. The number of varieties carried, therefore, depends on the amount of land available, as one must cut enough blooms of a kind to make a shipment worth while, and furnish enough similar material to carry out a decorative color scheme. For example, a florist might want five hundred *Eugénie Verdier,* the famous "baby pink," for a reception.

The possible range of varieties comprise four very distinct colors; namely, white, light pink, deep pink, and red, which is the usual classification adopted for exhibitions and by the cut flower trade.

In each of these four classes are three well defined blooming periods, the early, midseason and late. This makes twelve sections to be represented, as the goal set before each grower in selecting his varieties, and testing out the sorts to finally grow. Ultimately one may find it necessary to carry two absolutely indispensable sorts in some sections.

This building of a master list into which each tested variety must fight its way by sheer demonstrated worth is very absorbing. In comparing the painstaking records which we annually make, we sometimes find an outstanding variety, like *Madame Forel,* should be finally dropped, because other kinds have superseded it. In my personal study in order not to be too exacting and give new varieties every chance, I have really seven colors to divide the sorts into, viz: (1) paper white, (2) cream or yellow, (3) blush or delicate flesh, (4) light or medium pink, (5) deep pink, and rose, (6) red, (7) crimson and deep red. In this way we have tried out some fourteen hundred varieties and at the present time are carrying less than eighty.

Recommending varieties for other localities is not a very safe proposition and I shall only give a few notes on how certain sorts conduct themselves at our nursery. We have discarded *Meissonier* because of its crooked stems; *Madame Emile Gallé* because of having no low lateral leaves, which prevents cutting it with a long stem. Whereas *Octavie Lemay,* a dwarf-growing delicate pink, admits of cutting with a fairly good stem without injuring the plant, and is a wonder. So far with us the prize-winning *Jubilee* has a very weak stem. *Golden Harvest* is one of the mixed colored kinds that florists cannot send on a definite color order, unless the customer knows it by name.

Madame Crousse is tender in our climate and often skips a season in blooming. Because Richardson's *Rubra Superba* has proven very shy, we no longer carry it; while Richardson's *Grandiflora* is all that its name implies and a very free bloomer besides. This is one of those unusual sorts that come into bloom over a long period, so one must have a good many plants to cut from to get a fair quantity of flowers at any given time.

Adolphe Rousseau is a wonderful "black" but too loose and shows the yellow stamens too much. The greatly talked-of pink, *Lady Alexandra Duff,* is on the same order.

Single blooming varieties attract some, but are not very suitable for shipping.

La Tulipe is objectionable in bud as the florists call it a "candy bud," whereas the bud of Kelway's *Venus* leaves nothing to wish for.

No matter how fine a sort may ultimately develop on the plant, if in the early stages of opening it is likely to "water-log" like *Charlemagne,* it is not worth carrying. Probably more *Delicatissima* are used at June weddings than any other light pink sort.

The most popular selling red is *Felix Crousse,* with its perfect bomb shape and large guard petal which always indicates a good storage variety.

Many will be surprised that we have finally dropped *Edulis Superba.* It does so well in many places, but on our records which we have kept annually since 1888, it is not nearly as dependable as *M. Jules Elie* and generally not more than a day earlier. In some quarters *Madame Ducel* is grown, but with us it is smaller and so similar in shade and time of blooming to *M. Jules Elie,* that we do not need it.

We notice an increasing emphasis laid on the desirability of the fragrant varieties.

Having settled what roots to carry we will now discuss the best *soil* conditions. The soil should be rich, deep, well drained and with plenty of sunshine. For root propagation a loose loam makes the tubers admit of better dividing, but the heavier soil, with even clay subsoil, produces the best blooms. Not only plenty of well rotted manure before planting should be plowed in but also an annual mulch thereafter in the fall, but not covering the top of the crown or touching the stem. Pigeon, sheep or cow manure and even some hard-wood ashes make the best fertilizer for our prairie soil. Peonies are such gross feeders that a large quantity of fertilizer if worked in thoroughly can be well taken care of, but no manure should ever touch the roots. For most favorable results there should be plenty of water during the blooming period, and toward the end of August to make large eyes for the next season. Some of the foregoing remarks might be classified as labor rather than soil.

Labor.—The planting should be done during the early part of September, in rows three feet apart by a foot between plants down the row. In two years' time if the bed is to stand for blooming, every other plant should be lifted, divided and planted elsewhere.

If there is any question of the plants having any stem disease, during the month of September, cut off the old leaf tops level with the ground and burn them up. The surest method of keeping the roots free from disease is to dig out and destroy every large plant among blooming ones that has no flowers. In fact we have made it a practice for years, in all our standard sorts, of destroying June first every Peony plant two or more years old that has no buds. This avoids the possible spread of disease, and also prevents the perpetuating of shy blooming strains of Peonies. As long as plants bloom we need not worry.

The young shoots as they push up in the spring are quite beautiful and differ decidedly. At this stage of their development we go over our fields and dig out and throw away every plant differing in appearance from others in the same variety. This gets rid of any possible mixtures and is the last check in our system of keeping every plant true. I may be pardoned in mentioning here our ten-year old, unique guarantee of giving three for one for every plant blooming untrue to description.

Every three weeks from May to September we run a horse cultivator down every row and just before freezing up a "V" shaped potato plow to trench a furrow to draw the water away from the crown. Sufficient hand-hoeing during the summer must be done to keep the land free from weeds.

The labor of *marketing* the *roots* is mostly done in September, which is the proper time to move Peonies. It is preferable for customers to do their own dividing as then the cut surfaces are fresh and wither less when put into the ground.

However, many purchasers do not know how, and for that matter we ourselves are often surprised at the poorly cut plants we sometimes receive.

After digging, the tops are at once cut off, which prevents the roots withering and in this dormant condition they can travel safely for several months. In all handling of the roots great care should be taken to not injure or break off any of the eyes.

Regarding the *marketing* of Peony *blooms.* Long, straight stems are essential but the cutting must leave the plant to grow the balance of the summer with at least one, and better two lateral leaves on each stalk left standing. Where every stalk has a bud it is a good plan when disbudding the side buds for the cut flower trade, to also roll off a terminal bud on one or two of the weakest stalks, and thus give the plant more leaf area with which to breathe. The disbudding of all lateral buds, when the size of a pea, makes the terminal bloom develop larger.

Just at what stage of unfolding to cut a bud depends on the variety and how soon it is expected to open. Several carloads of Peony blooms come annually to Chicago before Decoration Day from points fully six hundred miles away.

As soon as the stalks are cut and most of the lateral leaves stripped off in order to give more of the sap remaining in the stem to the bud, they are gathered together in bundles of thirteen of the same variety and size of bud. In units of thirteen they can be sold either by the dozen or the hundred. The buds cut when the dew is on them carry better but if they are to be wrapped in paraffin or other paper, the petals must be thoroughly dry.

If possible it is a good plan after the bundles are tied up to stand the stems in water for an hour before shipping in boxes.

For the benefit of those who want Peony blooms much later than their normal season, and really one of the recent developments of this industry, it has been found that certain varieties of Peonies when cut in bud will keep in cold storage for six to ten weeks, and upon their being taken out will unfold in all their usual glory.

Owing to cool and wet weather early and extremely hot weather since June first, Gladiolus stems are more crooked than usual having been developed under conditions much similar to forcing in the greenhouse.

Northwestern Peony and Iris Society.

Annual Exhibition.

One of the most satisfactory exhibitions that has been held for some years was given at the Gymnasium Building of the University Farm School June 20th. The location is about mid-way between the Twin Cities of Minneapolis and St. Paul and is easily accessible.

Many days of hot, stormy weather preceding the date set for the exhibition made it rather problematical as to whether flowers could be held, and resulted in many exhibitors who had planned on making a display, giving up the attempt. The writer knows of a number of fine gardens of Peonies that were not represented for the reason that the season of best bloom that could be taken from the fields had passed by several days, and only those who made special effort to hold in check bloom for display, were able to make a satisfactory showing. A good crowd was in attendance during the afternoon and evening and several out of town parties were present.

The color class prizes were awarded as follows:

	VARIETY	EXHIBITOR
	MEDIUM TO DARK PINK.	
1st Prize	*Martha Bulloch*	D. W. C. Ruff
2nd Prize	*Mons. Jules Elie*	Mrs. Crouse
	WHITE.	
1st Prize	*Le Cygne*	D. W. C. Ruff
2nd Prize	*Enchantresse*	A. C. Arny
	FLESH TO LIGHT PINK.	
1st Prize	*Tourangelle*	D. W. C. Ruff
2nd Prize	*Albert Crousse*	Mrs. Frank Morrison
	RED.	
1st Prize	*Mary Brand*	D. W. C. Ruff
2nd Prize	*Rubra Superba*	Miss Ellison

Of the Professional collections Mr. D. W. C. Ruff carried off first honors with a splendid collection of blooms that were in good condition. The second prize in this class went to Harry Franklin Baker. Mr. A. M. Brand, of Faribault, had a large collection of bloom for exhibition purposes only and did not enter in competition.

In the Amateur class, Mr. A. C. Arny of St. Paul, easily carried off first honors with an exhibit that would do justice to any professional grower. Mr. Arny has learned the art of storing bloom for display which was clearly evident in the quality of flowers shown. Mrs. H. B. Tillotson, of Minneapolis, carried off second prize in the amateur class, and Mrs. Morris, third.

In the seedling display, A. M. Brand, of Faribault, Minn., had practically a clear field, carrying off all prizes in this class. Many seedlings were displayed that will doubtless rank as being the best of the new ones that Mr. Brand has developed. Among this number might be mentioned, *Martha Bulloch, Mary Brand, Elizabeth Barrett Browning, Francis Willard* and scores of others possessing exceptional merit. The first prize winner in the seedlings went to Brand's "wonder Peony" *Victory Chateau Thierry.* This is indeed a beautiful Peony and bids fair to fully equal or excel anything that Brand has originated thus far. This Peony will be displayed in greater perfection next June and will be eagerly watched for by Peony enthusiasts who marveled at its beauty.

Mrs. Tillotson has a number of very good seedlings that she displayed in addition to about thirty varieties of named sorts of the best varieties, among which was noted *Therese, Mad. Emile Galle, Marechal Vaillant, Marguerite Gerard, Mad. Emile Lemoine.*

In Mrs. Morris' collection were noticed *Modeste Guerin, Mme. Geissler, Meissonier, Felix Crousse* and others.

The writer did not enter in competition but displayed a number of varieties, viz: *LeCygne, La France, Brand's Magnificent, Francis Willard, Martha Bulloch, E. B. Browning, Lady Alexander Duff, Therese, Milton Hill, Enchantresse, Phoebe Cary, Soulange, Laura Dessert* and many others.

In the Arny collection was to be seen *Avalanche, Couronne de Or, Primavere, Elizabeth Barrett Browning, Mont Blanc, Soulange, Karl Rosenfield, La Roserie, Richardson's Superba, Madam Ducel, Mad. Forel, Lafayette, Mikado, Mad. Moutot, Lady Alex. Duff, James Kelway, Reine Hortense, Sarah Bernhardt, Rosa Bonheur, Marguerite Gerard, Eugene Verdier, Miss Solway, Milton Hill, Claire Dubois, Mad. Forel, Gypsy, White Lady, Bobbie Bee* and a few others. It is quite easy to observe from the above list that an amateur competing with this collection had to "go some" as his flowers were in splendid shape as a whole.

In the Professional class Mr. Ruff will be awarded the American Peony Society's silver medal for the best display in competition. A large vase of *Martha Bulloch, Tourangelle* and *Soulange* could not be beaten.

In addition to about fifty seedlings exhibited by Mr. A. M. Brand, he brought a large number of varieties for display. His varieties were not put in storage and consequently many did not carry well. The most striking flower exhibited was *Elizabeth Barrett Browning.* A large vase of nearly a dozen magnificent blooms created a great deal of comment and admiration.

All flowers were donated to the Red Cross or to the hospitals in the Twin Cities.

A still more successful showing of flowers will be planned for next June. We cannot expect a more representative collection but many will doubtless put forth effort to have their displays in more perfect condition.

To each exhibitor I wish to express my appreciation of their efforts to make our display a success and to solicit their further co-operation to make future exhibitions equally satisfactory.

W. F. CHRISTMAN, Sec'y.

E. Stanley Brown, of East Moriches, N. Y., specializing in Dahlias, but also growing Peonies, Gladioli and Roses, feels obliged to give up the work owing to difficulty of securing competent help and because of poor health and advanced years. Mr. Brown has been at the business more than thirty years and has a very large collection of some of the very best varieties.

Minnesota State Horticultural Society.

SUMMER MEETING.

The summer meeting of the State Horticultural Society was held at University Farm June 20th, 1919. This day was also set aside as Farmers' Visiting Day at University Farm, but owing to weather conditions the week previous and other reasons but very few farmers outside of those interested in the Horticultural Society and exhibit were on the grounds.

The flower exhibit was one of the finest ever made at the summer meeting. This was open from noon until nine o'clock in the evening and was exceptionally well attended. Probably between 1,000 and 1,500 people saw the show during the afternoon and evening. One very noticeable feature of this show was the interest that the great majority of visitors seemed to have in varieties both of Peonies and perennials and those in attendance at the exhibits were kept busy most of the time answering questions in regard to the flowers exhibited.

A picnic dinner was enjoyed at noon and others came out in the evening for a picnic supper.

A short program on horticultural topics was held at two o'clock, after which the party was taken over the campus buildings, gardens and fields, and at four o'clock there was a parade on the main street of a large part of the University Farm stock, followed by a parade of the tractors which had been used during the Tractor's School for demonstration purposes.

The first place in the professional, perennial class was taken by H. T. Baker, of Minneapolis, and the second, by Miss Sabre Ellison, of Minneapolis. These were both excellent collections, embracing a large number of perennials. In the amateur collection of perennials Miss Illa Koerner, of St. Anthony Park, took first prize and Mrs. Frank Morris, of Lake Elmo, 2nd.

Mrs. G. T. Brown, of St. Louis Park, took second and Mrs. Frank Morris, third, in the collection of Roses.

Mrs. Clarence Sather and Mrs. W. S. Beeman won first and second places in the amateur perennial class for those who had never before exhibited for premiums.

The exhibit of Roses was the largest and best that has ever been made at a summer meeting.

Mr. A. M. Brand, of Faribault, made a good exhibit of his seedling Peonies along with standard varieties.

Taking it altogether, this was probably the best summer exhibit that has been held. Something over 40 people made entries, totaling over 530 entries.

LE ROY CADY.

The Glad Philosopher's Musings.

What is a weed? When is a weed not a weed? Mrs. Comstock defines a weed as "a plant growing where we want something else to grow." In some parts of Europe they cultivate our common wild mullein in gardens and greenhouses as an ornamental, calling it the American Velvet-plant." Some of our commonest wild flowers are escapes from old-time gardens. Bouncing Bet, or soapwort, now a common road-side weed, was one time cultivated as a garden pink; and another gypsy, *Linaria vulgaris*, or toadflax, known to children as "butter and eggs," flourished in the gardens of our grandmothers, it being a near relative of the snapdragon.

Gladiona Cottage, the week-end summer home of the Glad Philosopher. Photographed in Peony time, showing a few of the 400 plants which were in gorgeous bloom during the month of June.
The view is the backyard driveway because a front view is impossible as the cottage sets on a hill with the river at the foot. Densely wooded hillsides beyond the river are seen in the photograph.

Harriet Keeler, in "Our Garden Flowers," relates how the toadflax acquired one of its several other names. It seems that a Mr. Ramstead, living in the suburbs of Philadelphia, introduced this plant into his flower garden, but it crawled out under the fence and established itself in the fields of his neighbors, who were truck gardeners, and it came to be known as Ramstead weed, a title that was not bestowed as a complimentary mark of esteem, by any means.

Both the cornflower and the poppy, troublesome weeds in some parts of Europe, luckily do not find our climate quite as congenial, and so are content to remain within the boundaries of our gardens.

The corn-cockle, a comely flower that has already established itself in our wheat fields, is a European emigrant; as is also the Marguerite, or dog-daisy, the pest which, it is said, came to America during the revolutionary war, with the hay that was sent over from England to feed the horses of Burgoyne's army, during the winter at Saratoga.

If Adam had only kept those weeds hoed out of the Garden of Eden, what a lot of hard work he would have saved the race.

Since a boy I can remember a little ditty that began thus:

> " A man of words and not of deeds
> Is like a garden full of weeds,"

and while the analogy may be a trifle obscure, the couplet served a useful purpose in establishing in my childish mind a contempt for weeds which clings to this day.

But weeds have qualities that we must admire. They are cheerful and resolute ever; industrious, persevering and tenacious. John Burrough, the venerable naturalist, says, "Weeds have this virtue; they are not easily discouraged; they never lose heart entirely; they die game. If they cannot have the best, they take up with the poorest; if fortune is unkind to them today they hope for better luck tomorrow; in all cases they make the most of their opportunities."

Let us then learn from the plucky weed with the indomitable will, and go after him with the same spirit his own persistent nature reveals.

THE GLAD PHILOSOPHER.

Catalogues and Price Lists.

The Glen Road Iris Gardens, Wellesley Farms, Mass.—A very complete list of the Sturtevant varieties carefully described and arranged.

United Bulb Co., Maple Park Farm, Mount Clemens, Mich.—Special catalogue and price list of Holland bulbs fall 1919. Hyacinths, Tulips, Narcissi and Crocuses.

W. F. Schmeiske, State Hospital Station, Binghamton, N. Y.—Sixteen page catalogue and price list devoted wholly to hardy Phlox.

Every Gladiolus lover should identify himself with the active organization representing the industry. Join the American Gladiolus Society. H. E. Meader's offer as printed in the April issue of THE FLOWER GROWER is still in force. You get one dozen blooming size bulbs of Kunderd's beautiful variety *Myrtle* if you join before the next annual meeting and the society will pay for your subscription to THE FLOWER GROWER during the life of your membership.

Fifty Years Acquaintance with the Gladiolus.

[*Written expressly for The Flower Grower.*]

BY HENRY C. ECKERT.

(*Continued from July issue.*)

In the beginning of this century, I made my third venture in buying mixed collections, 100 mixed named, and 100 seedlings from Matthew Crawford, and they were extra fine mixtures, indeed. Among the named varieties were some grand large flowering sorts, the very best in size and color I ever saw up to that time. I picked out the eight best ones, kept them separate, planted them next season in rich soil, but they did not show up well the second year and the third season went back on me entirely, a sorry disappointing lot they were; sickly and diseased. I threw the few remaining bulbs away. The seedlings had also some very fine ones among them, but they had no lasting qualities, in the fourth year only the poor stuff was left.

In the year 1911 I ordered from a northern grower, 100 mixed corms of his new celebrated strain, and this was the poorest lot I ever received. There was not one in this collection worthy to increase, and in three years they ran out completely. That put an end to buying mixtures, and if all purchasers had the same experience as I had the mixed collections would go begging. The florists and commission houses want flowers of one color in bunches of one dozen or more, and there is not much demand for mixed colors. This is my experience, and if other growers have done well with mixed stuff, I would be very glad to hear from them.

In the years from 1900 to 1908, I was very busy tending to my orchards and fruit business, but I never lost love and interest in the Gladiolus, buying occasionally new varieties that I thought, from description, were improvements on previous introductions but, excepting *America*, found nothing remarkable among them. In the year 1908 the controlling interest in the orchards was turned over to my son, and the thought occurred to me, why not make a business out of the Gladiolus fad by selling flowers and bulbs? But it took six years more of preparing and investigating before I really started the business. And I will say right here, growing Gladioli in Southern Illinois is more or less a gamble on account of our capricious weather. A good many years there is plenty of rain so that you can produce the largest bulbs of any section in this country, but you can depend upon it that about every fifth or sixth year is dry and extremely hot and the Gladiolus crop suffers accordingly.

[*To be Continued.*]

Hotels are congested in Detroit. Make reservations in advance for the American Gladiolus Society show, August 19th to 21st.

The Department of Floriculture at the State College of Agriculture, Ithaca, N. Y., are making plans for an unusually complete and attractive short course in floriculture during the coming winter. Persons interested in outdoor gardening will be able to take courses in garden flowers and other subjects for work in parks or private estates, &c. Even the amateur will have attention. Those who contemplate taking such courses should write the secretary of the College of Agriculture, Ithaca, N.Y.

CLASSIFIED ADVERTISING.

Growers having surplus stock for sale will find this department effective in disposing of it. Five lines (about 40 words) $1.00 per insertion. Additional lines 15c. each.

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Tulips—100 Mixed Darwins, or 100 Mixed May-Flowering, or 50 of each, $2.40, postpaid.

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THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

Vol. VI
Number 9

September
1919

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
Entered as second-class matter March 31, 1914, at post office at Calcium, N.Y., under act of March 3, 1879.

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BEAUTIFUL DELPHINIUMS (Larkspurs.)

[Written expressly for The Flower Grower.]

By Bertha Berbert-Hammond.

In the garden of my childhood
Where the stately Larkspurs grew
Colors swayed to gentle breezes,
Purple and white and brilliant blue

* * * * * *

And adown the years in fancy
Laughing voices come again,
As we twine the Larkspur's blossoms
Into friendship's fairy chain.
—*Helen M. Whiting.*

The improved Delphiniums are a revelation and destined to become exceedingly popular. Blue flowers are rare and much sought after, and among the perennial Delphiniums are found the most desirable blue flowers that can be easily and successfuly grown by the amateur gardener. The blue shades of these lovely flowers range from a pale azure to the deepest purplish blue. While blue is the prevailing color, some varieties show a blending of blue, white and red giving lavender blues, rosy mauves, purplish blues and other indescribable shades. There is also a pure white variety catalogued as *D. Moerheimi.*

The new Belladonna Delphiniums are especially fine in their wealth of varied blues. We find gentian blue, royal blue, Dresden blue, turquoise blue, navy blue, indigo cerulean and numerous other exquisite combinations and mixtures from the palette of the Master Artist.

Many of the hybrids now in cultivation were derived from the old-fashioned "Bee" Larkspur (D. *Elatum.*) While the newer varieties are so very desirable I also grow the good, old "Bee" Larkspur, common in the garden of my childhood home, with its dark center that so very closely resembles a fat, fuzzy pollen-covered bee in the act of sipping deeply of the sweet nectar secreted in the chalice of the flower. I remember, too, how I helped to twine its long wreath-like spikes into dainty chains of friendship. I love the dear, old "Bee" Larkspur for its own worth and also for the sake of the sweet memories it recalls of

Those bright days of childhood I ne'er can forget,
How they linger, yes, linger in memory yet,
I can never live over those bright days again,
Sunny days, happy days, unmingled with pain
Never again will the world seem so fair
Never will I know so little care.
The sky then appeared to me so charmingly blue,
And each open flower of the loveliest hue.
—*Mary A. Wilson.*

GLADIOLUS—*MONTEZUMA.*

Originated by Dr. C. Hoeg, Decorah, Iowa, and introduced in 1918.

Described as a rich dark crimson-carmine, slightly flaked black, maroon throat, mottled yellow.

Montezuma has very large flowers and a long, graceful spike.

There are both annual and perennial varieties of Delphiniums and also single and double flowering sorts. The long, graceful spikes of bloom are decorative in the garden or as cut flowers. They also make the loveliest token to place in "God's Acre, Beautiful" where " A little green encircled hill" marks the last earthly resting place of a dearly beloved one.

As the hardy Delphinium has so many excellent qualities and seemingly no faults, it can be unreservedly recommended as a most desirable and satisfactory plant for the garden of the busy woman. It is not in the least particular about location, thrives in any ordinary garden soil, endures drought and neglect, requires no winter protection and will self-sow. Every spring a number of volunteer seedlings may be found nestling near the older plants. While small, these may be transplanted where desired. As they are of rapid growth and attain a height of over five feet it is well to plant them in the back ground or among shrubbery.

Seeds planted in summer or early autumn usually produce plants that will bloom the following year. Sometimes seeds planted early in spring may bloom the first season but will produce flowers of a finer quality the following year. The Delphinium can also be propagated by division but this requires considerable care and skill. It is a rather slow method of increasing stock and, from my own experience, not always a successful one. To try to divide the plants late in the season nearly always results in a failure. Contrary to some authorities, I believe that when once well established, the perennial Larkspur, like the Peony, resents being disturbed. Plants from seeds, though not always true to type, are readily obtained and when firmly established will last for years, growing larger and producing handsomer flowers as the plants gain in strength and endurance.

If not allowed to go to seed, the Delphinium is a dependable, profuse and also a continuous bloomer. By severe pruning and gross feeding, a second and even a third crop of flowers may be secured, and the season of bloom extended from June until heavy frosts, for besides its many other sterling qualities it will successfully endure light frosts, standing tall and unharmed when most of its garden companions have been blackened or cut down by the ruthless hand of Jack Frost.

Mrs. Hammond's little daughter, Melvina B. Hammond, among the Larkspurs which thrive on the north side of Mrs. Hammond's country home, "The Castle," near New York City.

If you have never grown the improved varieties of Delphiniums you have a great treat in store. Stop beating time and try some of the new sorts. Secure a packet of choice seeds, plant them, and lay the foundation for a long and glorious feast for the eyes for many seasons to come.

Reviving Wilted Flowers.

Mr. Christman, Secretary of the Northwestern Peony & Iris Society, in the *Minnesota Horticulturist* calls attention to the method of reviving wilted Peonies by placing the stems in very hot water. This scheme can be made useful in connection with Dahlias and other flowers as well, and the fact should be understood and remembered by all interested in cut flowers.

Peony—Festiva Maxima.

By many this grand double white Peony is thought to be the best. This, of course, is a strong statement to make, but, anyway, it is certainly a glorious flower, and the large pure white bloom with scarlet markings in the center make a most striking appearance in its season. *Festiva Maxima* is a strong grower and a sure bloomer, and it is sure that no collection is complete without it.

The Blue Gentian.

By Wilbur A. Christy.

[*Written expressly for The Flower Grower.*]

YOUR readers, or many of them, no doubt are familiar with the beautiful Fringed Blue Gentian—that widely distributed and yet somewhat rare Autumn-blooming wild flower, that late in the season lifts its sky-blue whorls, even to the time of the early snow fall. After most other flowers have had their day and disappeared, the Gentian is the humble-bee's latest prize, though he is forced to exert himself to gain an entrance through its closed door-way which bars access to the sweets within, but will at length yield to his urgency, though closed to most other honey-seekers. Many who may not be thus familiar with it in Nature's gardens are still acquainted with it in the garden of Poesy, and will readily recall the enchanting lines of Bryant in which he apostrophizes it thus:

> " Thou blossom bright with Autumn dew,
> And colored with the heavens' own hue,
> That openest when the quiet light
> Succeeds the keen and frosty night.
>
> Thou comest not when violets lean
> O'er wand'ring brook and springs unseen,
> Or columbines, in purple dressed,
> Nod o'er the ground-bird's hidden nest.
>
> Thou waitest late, and comest lone,
> When woods are bare and birds are flown,
> And frosts and shortening days portend
> The aged year is near his end.
>
> Then doth thy sweet and quiet eye
> Look through its fringes to the sky,
> Blue—Blue—as if that sky let fall
> A star from its cerulean wall.
>
> I would that thus, when I shall see
> The hour of death draw near to me,
> Hope, blossoming within my heart,
> May look to Heaven as I depart."

How unerringly this great poet perceived the lovely aspects of life, both natural and spiritual. How this insight is shown in his "Lines to a Waterfowl," no doubt another Autumn inspiration. Who would not be touched by these beautiful lines?

> " Whither, midst falling dew,
> While glow the heavens with the last steps of day,
> Far, through their rosy depths, dost thou pursue
> Thy solitary way?
>
> * * * * *
>
> There is a Power whose care
> Teaches thy way along that pathless coast,
> The desert and illimitable air,
> Lone wandering, but not lost.
>
> * * * * *
>
> He who, from zone to zone
> Guides through the boundless sky thy certain flight,
> Through the lone way that I must tread alone
> Will guide my steps aright."

But I started to write about the Gentian. The Fringed Blue Gentian is a distinctively American flower, widely scattered, and yet not common. There are many who would not recognize it, having perhaps never seen it as it grows. I know that many years of my life had passed before I came to know it, and during a life one of whose greatest pleasures it has always been to wander through woods and fields, seeking after treasures of Nature, flowers or plants hidden away after her shy fashion, I have learned of comparatively few locations where it was to be found. One of these, in which it has spread quite freely over a limited area, is in a river flat, at the foot of a high bank just back of my home, where I have had the pleasure of gathering its beautiful blossoms of their varying shades of richest blue, and of sharing my "find" with others who had never seen or known it, and of sending by mail to some distance.

Imagine then, if you can, my "state of mind" when I noted that this plot had been ruthlessly plowed up and the Gentian probably exterminated in the preparation of a "war garden." The sweet flowers that meant so much more to me than anybody's corn and beans. I do not think I am naturally malicious, but it surely did give me a small measure of gratification to see that at harvest time the aforesaid "corn and beans" were a complete failure. And then I thought, "even here, the rude plowshare of war reaches across half a world, only to destroy."

"Which thing is a parable." The flower of many a family, sheltered and secluded, has gone down in direst wreckage and ruin, and is no more, in the path of war. The youngest of our own family had just been transferred from training ship to battle ship, and letters are rare and strictly censored, lest some chance shred of information should leak out in regard to destination or duty. And if, with his ship, he should be sent to the bottom of the sea by some ruthless submarine, we may never know. Oh, spirit of war, "if thou hast no other name to be known by, let us call thee devil."

It seems a far cry from wild flowers to war and the carnage of battle, but it is hard to forget the horrors of the dreadful work of destruction, which sweeps away the fairest flowers of earth and of the home without remorse. What about the responsibility of one, who, more than a million times a murderer, holding the leash in his hands, deliberately chose to let loose the dogs of war, thirsting for blood, upon an unoffending world?

This has surely been a Hollyhock season. Not in some years have they bloomed so continuously and profusely. Weather conditions seem to have just suited them. The editor grows Hollyhocks by simply allowing them to reseed themselves each year, keeping weeds hoed out and allowing only the most vigorous plants to grow. This method has resulted in a good display of Hollyhock bloom every year, and the different varieties seem to seed themselves with reasonable uniformity, as none seem especially stronger growers than the others.

A reader wants to know about a remedy for green fly infesting Hollyhocks. Can any of our readers suggest a remedy?

American Gladiolus Society.

Annual Exhibition and Meeting at Detroit, Aug. 19th to 21st.

The tenth annual meeting of the American Gladiolus Society was held in the parlors of Hotel Statler, Detroit, Mich., at 10 A. M., August 20th, 1919, with President Kunderd in the chair. The attendance was larger than at any previous meeting in our history, and the interest manifested is a good sign of the future of our Society. The President read his address and the reports of the Secretary and Treasurer were received. These reports showed the Society in good condition and growing in membership. Very few members had failed to send in their annual dues and it was expected that a majority of those not yet paid would soon do so.

The election of officers for the next two years resulted as follows:

President—H. E. Meader, Dover, N.H.

Vice President—C. R. Hinkle, St. Joseph, Mich.

Secretary—A. C. Beal, Ithaca, N.Y.

Treasurer—Madison Cooper, Calcium, N. Y.

A change in the constitution of the Society was recommended by the committee which was empowered to prepare a new constitution, to the effect that three members of the Executive Committee be elected; one to serve for one, one for two and one for three years and in the future one member be elected for a term of three years. The intent of this is to make the Executive Committee a continuous body. This change in the constitution was approved and the election resulted as follows:

Joe Coleman, Ravenna, Ohio, for three years.

Lee R. Bonnewitz, Van Wert, Ohio, for two years.

I. S. Hendrickson, Flowerfield, N. Y., for one year.

It was voted to eliminate the initiation fee and to keep the annual dues at two dollars as heretofore.

Mr. Vinson of Cleveland, Ohio, extended an informal and cordial invitation to the Society to hold its next annual meeting and exhibition with the Society of American Florists in Cleveland, Ohio. President Meader spoke of the advantages of holding the next meeting in Boston, Mass., and the Secretary read a letter from Mr. Scheepers on the desirability of holding the next exhibition in New York City. After considerable discussion it was voted to hold the next meeting in Cleveland, Ohio, provided the Executive Committee could make satisfactory arrangements with the representatives of the Cleveland Florist's Club who are in charge of the arrangements for entertaining the Society of American Florists.

Mr. Vinson spoke on the Publicity campaign of the Society of American Florists and urged that the American Gladiolus Society co-operate. After some discussion the sum of one hundred dollars was voted for this purpose.

All the discussions were replete with suggestions which it is hoped will aid in the future in increasing the usefulness of the Society. The need of more and larger prizes, except Gladiolus corms, was urged by more than one speaker.

After an interesting session lasting more than two hours, the meeting adjourned.

A. C. Beal, Sec'y.

President's Report for 1918-1919.

It is certainly a great pleasure to me to meet with the American Gladiolus Society this year and especially so since our members and growers have been so successful in staging such a magnificent collection of Gladioli. There can be no question of the success of the future of our Society, and the future of the Gladiolus in the hands of such an enthusiastic organization. It is now ten years since our Society was organized in Boston, and its success is no longer in doubt. How can it be otherwise when we are at work with the grandest flower that grows.

Although the Gladiolus does not possess the sweet odor of the Carnation and Rose, it far outrivals them both in its gorgeous stateliness and great variety of forms and color. The Gladiolus has been so busy in working out an unequalled color scheme and newer types that it has not had time to acquire sweet odors, but some of our successful originators will undoubtedly be able in the future to also teach it that very refined accomplishment.

We are only beginning to generally appreciate in this country the beauty and pleasure of our gardens and home ornamentation and surroundings with plant life, and no other flower will be more popular and widely known than the Gladiolus. Its ease of culture, certainty of blooming, and its general adaptability to almost every soil and climate will certainly give it first place in the floral world and popular esteem. It requires experts to grow beautiful Roses or Carnations, or a marvelous Orchid, or grand Chrysanthemums in most parts of our country, but any child can grow some beautiful Gladioli almost anywhere. Then no wonder all the world is catching the enthusiasm of our members for this wonderful flower. Each year will find its popularity increased by leaps and bounds until it will be grown in countless millions.

This brings me to the consideration of bulb prices for the coming year. Perhaps some of our members would like to discuss this question at this meeting.

Another question of importance to our members is the consideration of the much discussed and cussed question of the Quarantine Act No. 37.

In conclusion, I wish, in behalf of our Society, to extend my thanks and appreciation to both our Secretary, Prof. Beal, of Cornell University, and Mr. Madison Cooper, publisher of that valuable floral magazine, The Flower Grower. I also wish to thank the Society and express my appreciation of the honors conferred upon me by its members.

A. E. Kunderd, President.

Secretary's Report for 1918-1919.

It is with pleasure that I present my second annual report. The American Gladiolus Society is in excellent condition and growing in membership. Glancing through the old reports it appears that the largest number of names ever carried on the books was 210 and so far as I can discover 172 paid up members was the largest number ever reported at any annual meeting. It seems that when this Society ceased to publish the bulletins, the membership dwindled. In 1917 the late Secretary reported 171 names on the books. However, when I took over the work I found but 83 paid-up members. The active membership campaign inaugurated by the Society in the spring of 1918 brought the membership up to a higher level than ever before. Last year the Secretary reported a total membship of 265, of which 166 were new. These were all paid up, and there were some old members who it was thought could be counted upon to renew their memberships as soon as conditions became normal. During the year the membership rose to 280. Since some of these came in under very liberal inducements and represent beginners in Gladiolus growing, it is not improbable that a few of them may not renew for 1919-1920. The number ought not to be very large, however, for in The Flower Grower the Society is giving the members a definite return comparable to that made by the American Rose Society to its members.

The question of undertaking the publicity campaign is one which should be discussed at this meeting. It would seem that we ought to have at least 500 members. Should we have life memberships, placing the dues from this in a permanent fund?

Some rules or regulations should be made governing the award of our medals to other societies for exhibitions. No requirements are now made whether any of these societies have a definite number of American Gladiolus Society members in their ranks. It would seem to your Secretary desirable to make this requirement, although we should encourage local societies to have Gladiolus exhibitions. These questions might be considered by the executive and exhibition committees and action taken if the Society approves.

This year the Society returns to its former custom of holding the annual meeting and exhibition with the Society of American Florists and Ornamental Horticulturists. Many of our members believe that such an arrangement is helpful to both organizations, and our experience this year would seem to strengthen this opinion. Next year the S. A. F. & O. H. meet in Cleveland, Ohio, and the question of our next meeting place should be discussed with reference to the advisability of holding our meeting again in the West.

The Society lost one member by death during the past year. Mr. Emlyn M. Gill, Larchmont, N. Y., President of the Gill Engraving Company, was one of our new members who did not live to have the opportunity or the pleasure of meeting with the Society.

Among the devoted adherents of the Gladiolus was Mr. W. W. Wilmore, Jr., of Denver, Col., who gave his life to his country while in the service in France. His writings form a valuable contribution to the literature of this flower and undoubtedly stimulated the interest of a great many persons in the merits of the Gladiolus. His enthusiasm and unbounded energy in behalf of floriculture in the West will be missed very much. Let us hope that among those whose candles were lighted at his flaming torch of floricultural leadership, there may come forth leaders worthy to carry forward the work of telling interestingly the story of the culture of flowers.

A. C. Beal, Sec'y.

Owing to lack of space we are unable to give a full report of the winners in the non-commercial classes in this issue of The Flower Grower, but expect to cover it fully in the October number.

[*Continued on page 94.*]

The Flower Grower

PUBLISHED MONTHLY ON THE FIRST OF THE MONTH BY
MADISON COOPER, CALCIUM, N.Y.

FOR BOTH AMATEUR AND PROFESSIONAL FLOWER GROWERS

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> "*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

"The Middleman."

In common with other industries floriculture has developed people who make a living out of brokerage. They buy from growers and sell wherever they can find a market, mostly to seedsmen and florists.

We are not prepared to state that brokers have not a legitimate function in the flower business, but we would point out the fact that many people sell to brokers or through brokers at a price which is ridiculously low, and in many cases below the cost of production. With the present condition of the labor market there is absolutely no reason for this except that the growers do not know how to advertise. The broker is a man acquainted with the trade and in many cases does a large part of his business through advertising. The grower can do the same and no grower need sell to brokers or middlemen. A business built up direct with customers is a valuable asset for future years.

All growers should, therefore, endeavor to build up a business of their own, and this can best be done through advertising. It is not difficult to secure a rather wide acquaintance in the trade by advertising properly, and this acquaintance can be made extremely profitable by proper attention to the wants of customers, honest business methods, careful packing and the furnishing of high quality stock.

MADISON COOPER.

The Huckleberry as an Ornamental.

In a recent number of *The Florists' Exchange* there appeared a fine illustration showing the possibilities of the use of the common Huckleberry (Vaccinium), or what is known in the West as the Blueberry. This illustrated extensive grounds at Chestnut Hill, Philadelphia.

As the Huckleberry is native in high northern latitudes, it might be well for those who want hardy plants for ornamental plantings to study the possibilities of this plant. In the case of the Chestnut Hill estate referred to, the Huckleberry planting was flanked by Dogwoods on either side which made a fine frame or background in combination with the Huckleberry. As the Huckleberry does well on almost barren sandy tracts of land, it responds mightily to feeding and when grown in a semi-cultivated state, it is, of course, much larger and more attractive than when native on the sand barrens.

Near the editor's home is a considerable tract of land known as The Pine Plains (which, by the way, was purchased several years ago by the U. S. government as a summer training camp) and which when the season is favorable, produces large quantities of wild Huckleberries. Hundreds of people visit these plains and return laden with the luscious berries.

The Huckleberry affords in the spring a modest floral display and the growing of the plants in masses makes a very beautiful effect at all times of the year. In October and November the foliage takes on autumnal tints which may surpass even the Japanese Barberry.

Let us give greater appreciation to our native plants. Many of them under reasonable care respond in a way which is surprising and their great advantage of hardiness is of the utmost importance in the north.

MADISON COOPER.

In connection with the article in an adjoining column entitled, "The Middleman," it is interesting to note that certain commercial growers, who, as a matter of fact, only grow a part of their stock, but act as brokers or middlemen on a large portion of their sales, are already offering to buy large quantities of Gladiolus corms for future delivery.

In these days of high production costs and steadily advancing costs, it is the height of folly for any grower who has put his hard labor into producing high class stock to sell it to be delivered several months later.

Last year we advised growers who were inclined to be weak-kneed on prices that they were making a mistake. We want to repeat this caution again this year. There is absolutely nothing in the situation to cause low prices for any sort of flower stocks, and the tendency is always upward on prices with the labor conditions under which we are now working. Don't sell in advance of the actual harvesting of the crop, and then be sure that you know what values are before disposing of same.

An experienced grower suggests that some of the very finest seedlings may be likened to a skyrocket. When they first bloom they seem to spend all their force in one spike and leave no life for reproduction, and if there are any bulblets they simply will not grow.

We think that most growers who are students have noted the fact that quite a considerable proportion of seedlings are quite likely to behave in this way. A "glorious" new seedling that is "glorious" but once and then mediocre or worse. Therefore, don't be so sure that your "world beater" new seedling is any better than some of the old common sorts.

Our good friend, C. S. Tait, Brunswick, Ga., sent us a couple of giant Amaryllis bulbs this spring and we wrote back and asked him how to plant them. He replied that anyone who could take prizes at the flower shows with Gladioli needed no instructions about growing the Amaryllis. We planted them accordingly and were rewarded with two spikes of giant bloom to each bulb, four flowers on a spike. As the Amaryllis seems to bloom quickly with the advent of warm days, we surely will want Amaryllis in our garden every year now to give us early bloom in advance of the Gladiolus season.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

A New Seedling Gladiolus.

"ISN'T that a beauty!"

"It certainly is, it caught my eye the first of any. Such marvelous color and notice its size. Of course, it's a prize winner."

The two young ladies, who were among the early arrivals at the exhibition of the Gladiolus Society, were standing at the entrance of the great show room. The flower they were speaking of was in the center of an exhibit opposite them, and being conspicuous because of its size and charming color, at once attracted their attention. After a sweeping glance around the hall their eyes were again settled on it. "Now let's go straight to that flower first and then make a tour of the room," and they went on, admiring and exclaiming as they passed the various exhibits, until they had gone the rounds and came back to it. "No, there's nothing else that can anywhere near equal it. It is perfectly wonderful."

"Yes, it is a pretty thing, and every way you look at it. Do you know, I just wish I could have a dress like that. That unusual color with the silky sheen is fine, and," tipping her head sidewise, "another way it looks like velvet sparkling with diamond dust. The shading is so suitable, just as the trimming of a dress should be." She paused, gave a few almost imperceptible chews on the gum that had given one pink cheek a very plump appearance, then added: "It's just my color, too, I wonder why I have never thought of it before." As her friend made no remark she turned to find her apparently enraptured with the beauty of the flower and seemingly unconscious of her presence. Opening her eyes wide in astonishment, she asked: "What is the matter with you; have you gone clear crazy over a flower?"

"No, but the more I see it, the more beautiful it seems. I want to have one. Where is he, the owner, I mean. Have you seen him?"

At that moment the exhibitor, who was coming toward them, was joined by a number of friends, talking noisily. "We want to see that New Seedling of yours that we hear so much about." "Of course he would win the blue ribbon," and "All he has to do is to stick a seed in the ground and it will grow a prize winner. Now, didn't you?" and with more lively banter, to which the patient originator replied: "It took some time and study to produce that flower."

"Well, it is wonderful! Beautiful!"

"Just what we expected you would have." "Well, goodby, we'll see you again." As they moved on, snatches of their conversation floated back. "O he's a perfect crank on flowers." "Fusses with them year after year." "Never made any money with them." "Of course, it's nice but"—and the voices trailed off into the distance. He smiled and then noticed Lucille's rapt expression. "You like my flower?" "Yes, it is exquisite. I want it. Will you let me have it, sell it to me I mean. It is the bulb that I want?"

He shook his head slowly. "I couldn't," he said, "at least not now," then added, "Perhaps you would like to know how I came by it?" She nodded and he began: "Years ago when Gladiolus blooms were small and mostly of very ordinary colors, what we now call old-fashioned Gladioli, I pictured an ideal flower and hoped sometime to see the reality. It was to be large, yet delicate of texture and strong of substance. Of beautiful form, and resting, like a tired butterfly, on a stem so slender and graceful, that the word spike would forever be forgotten. Its color to be"—"Like that of the Pearly Gates," she interrupted.

"I sowed seed," he continued, "gathered from flowers that from close observation, seemed to hint of tendencies in the direction of my dream flower. Nature understood and leaped to my assistance. Very soon I learned that many different tendencies were hidden in seed and that if I could, in some way, combine and guide those tendencies, it might be possible that some condition of culture or environment would release them into the perfection of the flower of my dreams. I grew thousands of seedlings and by my method of combining and selecting," as he talked he pulled an anther loaded with pollen, from a flower, and rubbed its dust on the stigma of another one nearby—"and recombining, I developed greatly improved varieties. Occasionally a peerless bloom would be mine, then some unforeseen condition would snatch it from me and it would be lost, its beauty but a fleeting memory. Often a seedling would produce a bloom of monster size, the first year only, and no amount of coaxing would bring anything but a common flower ever after. My dream flower still eluded me. Disappointment was fast leading to discouragement, and one day—I remember it well—a day near the end of a prolonged drought, when hot winds were burning the drooping, thirsty spikes, and the seedlings gave no promise. That day I gave up my quest. I would try no more. The next morning after a copious rainfall this flower was mine." He paused, then lifted the flower caressingly from the holder.

"That was some time ago," he said, "but it has stood the test of time and discouraging conditions. It is what a New Seedling that is of actual worth should be."

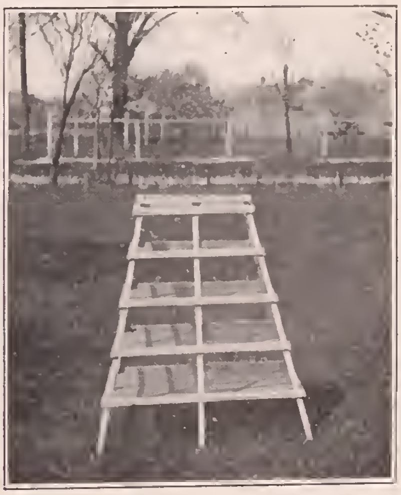
"I understand now," said Lucille. "A New Seedling that is worth growing and giving to the world should be so—unusual—so different, and beautiful so distinctive in every way that it will at once attract the attention of the casual observer just as it did me, us," she corrected, becoming aware of the presence of her companion.

"Well," spoke up her companion emphatically as she turned to the originator, "You sure ought to make some money on that flower. It was job enough to get it. I shall want some bulbs of it myself when you put it on the market, and you may place my name on your mailing list."

MRS. A. H. AUSTIN.

Outlook for Flowers.

It is worthy of note that the conventions so far held this season have shown that all the horticultural interests of the country are coming back strong, now that the war is over. The demand for flowers seems to have been increased rather than diminished by war-time conditions. This has surprised some people, but the truth is that flowers proved to be one of the best antidotes of the war horror. Flowers brought dying soldiers back to life. They soothed the sufferings of the wounded and assuaged the grief of those in distress. Soldiers abroad learned the love of flowers which characterize the people of Europe. When they came back they gave more attention to the flowers of the homeland than ever before. All this has been reflected in the prosperity of flower growers and retail dealers. The demand for nursery stock has proved far greater than expected. It has been difficult for some time to buy plants of garden Roses, except in a few varieties. Many plantsmen have sold direct to the public instead of to the trade. There has been a tremendous call for Gladioli and Dahlias. Flower boxes are coming back into favor and even the big stores and business houses are resuming the custom. The one thing that is calling considerable agitation is the practice of department stores in selling cheap plants. This is a matter which will have to be taken up very seriously.—*Horticulture.*



Bulb curing tray used by Mrs Joseph H. Wessel. Mrs. Wessel describes it as follows:

"The frame is 37½ inches high, at the base 2 ft. 5 in. x 2 ft. 10 in. The shelves are 7 in. apart, and each shelf has a 2½ in. strip all around. The shelves are made of galvanized fly screen and the wood parts are ⅜ in. x ⅞ in. pine strips. We have used it for six years, not only for curing Gladiolus corms, but also for drying fruits and vegetables. It is very light and can be carried in and out doors very easily."

WAYSIDE RAMBLINGS

SOME GLAD TIDINGS.

This year we had something like 4,000 corms and a limited space in which to plant them, so they were placed about four inches apart in the rows and the rows eighteen inches apart. When they came up The Little Lady entered a protest because she said she couldn't pass between the rows with her skirts without breaking the stalks.

Well, she changed her mind and says we will plant in much the same manner next year, the reasons being that she finds it quite possible to pass between the rows with safety to the plants and the Glads are paying for themselves this year.

For a while a down town florist took all we could furnish at 8c. each. Then they began to bloom generally and he cut us off because we wouldn't cut the stems long enough to suit him. We had a week in which we gave away several dozens of blooms. One very pretty bunch of two dozen *Mrs. Frank Pendletons* were taken to a local greenhouse to be arranged in a basket for a funeral.

It was just about this time that the drought began to be severely felt. The florist asked were the Glads came from and then engaged the crop for the balance of the year. That same evening another florist showed up with an offer to take all we had.

We find that quantities of one kind are necessary to reach the florist trade. They don't care for mixed bunches. We had several hundred in *Mrs. Francis King, Mrs. Frank Pendleton, America* and *Halley* and it is from these that we have been selling.

A number of varieties of which we had from ten to twenty corms each were planted about the middle of the patch, right opposite the opening in the hedge from the door yard into the garden. The blooms from these we rarely pick, saving them for our own pleasure. We were fortunate in the planting, in getting the colors well arranged and The Little Lady says we will pay even more attention to this next year. For instance, *Mrs. Dr. Norton, Niagara, Canary Bird, Bluvista, Pink Perfection* and *Scarsdale* are pretty closely associated in adjoining rows and the masses of colors make very pleasing contrasts and combinations.

The darker varieties are also bunched to a certain extent, but we especially like the show made by the groups of more delicately tinted varieties.

Several of the little one-year-old *Halley* corms, not much larger than peas when planted, have made fairly decent bunches of blooms. They have grown well, also a lot of *Niagaras*, but most of the *Schwaben* corms planted at the same time and in the same rows have died.

This year has convinced us that plenty of water is pretty nearly a necessity to insure a good bloom crop, and the water should be started early in the season, whenever the natural precipitation is below normal. Many of our blooms have been small because of the drought.

Next year we are expecting to raise many blooms of five or six standard varieties for market, and quite a number of varieties of which we have only a few corms for our personal delight.

HARMON W. MARSH.

GLADIOLUS—THOMAS T. KENT.

If all Gladiolus lovers were in convention and a nomination was to be made for the one most satisfactory Gladiolus, I would certainly like to present as my candidate, *Thomas T. Kent*, originated by Richard Diener, of Kentfield, Calif. Of course, in a matter in which the question of personal taste enters so largely, as in the selection of the most beautiful Gladiolus or the most beautiful woman, there would naturally be a wide divergence of opinion, but the *Thomas T. Kent* is surely a wonder. Apparently, it is a very much improved *Mrs. Frank Pendleton*, at least, it has very strong indications of close kinship but its blossom has many distinguishing features. If it is not the largest, it is one of the largest flowers I know; seven or eight blooms open on a stalk at a time; and in its height and sturdiness it is most impressive. It is a great multiplier, and I can most cordially commend it to anyone in search of a classic flower. If a friend would introduce me to another flower that was its equal I would surely appreciate the introduction.

I enclose a photograph of a basket of *Thomas T. Kent* grown in my garden. The other flower shown in the picture is a fitting companion to the *Thomas T. Kent.*

F. S. KIRKPATRICK.

DATES OF AUGUST BLOOMING GLADIOLI.

See August issue for the July blooming varieties:

	1916		1917		1918	
	D.	M.	D	M.	D.	M.
America	6	8	20	8		
Albia	8	8			6	8
Albion	1	8	7	8	2	8
Afterglow	8	8	16	8		
Angola	1	8	1	8	31	7
Brooklands	7	8	15	8		
Crown Jewel	2	8	13	8	31	7
Canopus	8	8	2	8	23	7
Capella	5	8	5	8	2	8
Erwin Mayer	5	8	21	8		
Emile Gebhart			2	8	1	8
Golden Measure	6	8	18	8	7	8
Gold Drop	1	8	9	8		
Golden Gate	1	8	30	7	8	8
Glory of Noordwijk	1	8	6	8	6	8
Hohenstauffen	4	8	1	8		
Helen Goldman	1	8	17	8		
Herman Sielcken			3	8	8	8
Jack Frost	2	8			9	8
Liebesfeuer	8	8	5	8	9	8
Lady Frances Cecil	9	8	9	8		
Mrs. Francis King	6	8	6	8		
Mrs. J. M. Skittery	3	8	12	8		
Mrs. W. E. Fryer	20	8	26	8		
Murillo	4	8	6	8		
Marie	1	8	4	8	30	7
Mary Fennell	9	8	9	8	3	8
Negro Prince	10	8	15	8		
Oberammergau	31	8	27	8		
Panama	6	8	14	8		
Peace	11	8	21	8		
Paris	18	8	28	8		
Pride of Hillegom			2	8	1	8
Primunella	7	8	7	8	8	8
Rigel			11	8	8	8
Schwaben	7	8	11	8		
Sea Mouse	6	8	22	8	8	8
Sirius	8	8	5	8	4	8
Spica	4	8	2	8	28	7
Silvis			14	8	8	8
Vivid	9	8	2	8	29	7
Zeppelin	7	8	16	8		

SMILAX (England.)

TRANSPLANTING THE GERMAN IRIS.

A short article on the above subject taken from *Gardening Illustrated* in the April issue of THE FLOWER GROWER, suggests that transplanting should be done immediately after the flowers have faded.

For transplanting in one's own garden, this is undoubtedly correct, but it is not usually practicable commercially, the best time commercially is earliest spring. All the planting necessary is to lay them down on the ground and set the foot on them.

B. C. AUTEN.

EXTREMELY EARLY GLADIOLUS BLOOM.

My first variety to bloom in 1919 was *Primulinus Sunbeam*, (Vaughan) a soft cadmium yellow, lower petals having narrow central line of scarlet with a small scarlet throat. Upper petals on outside lightly feathered salmon. Slightly hooded, and edges slightly ruffled. A long and narrow triangular shaped flower, two to three open at once, separated on spike which is 30 inches tall. Stem slender but strong. Planted May 14 and bloomed July 11, requiring 58 days.

CHAS. E. F. GERSDORFF.
(District Columbia.)

BLOOMING DATES OF GLADIOLI.

Bulbs in 1917 were planted May 24. Killing frost Oct. 6, caught bloom on *Challenger, Glory of Holland, Kunderd's Glory, Lady Borden, Primulinus Hybrids, Pellico, Peace* and *Taconic.* Bulbs taken up Nov. 7th.

Bulbs in 1918 planted May 21. Killing frost Oct. 1st caught many kinds in bloom and some too late to bloom. Bulbs taken up Oct. 19–23rd:

Variety	Originator	1917	1918
America	Groff	Sept. 2	Aug. 20
Aberdeen	Kunderd	Aug. 15	Aug. 11
Alice Carey	(?)		Aug. 17
Afterglow	Groff	Aug. 31	Aug. 28
Annie Wigman	Hopman		Aug. 21
Arizona Rose	Kunderd	Aug. 19	*N. B.
Baron Hulot	Lemoine		Aug. 25
Big Black	Kunderd	Sept. 8	Aug. 25
Black Pansy	Kunderd	Sept. 1	Aug. 24
Blue Jay	Groff	Aug. 7	Aug. 7
Bertrex	Austin		Aug. 24
Cardinal	Childs	Aug. 25	Aug. 11
Challenger	Kunderd	Sept. 2	N. B.
Charlie Kohler	Kunderd	Aug. 14	Aug. 13
Cardisun	Austin	Cormels	
Candidum	Austin		Aug. 15
Crown of Jewel	Kelway	Cormels	
Countess of Leicester	Kelway	Cormels	
Dawn	Groff	Sept. 1	Aug. 18
Dracocephalus	Species		Aug. 24
Dazzler	Groff	Sept. 1	Aug. 19
Defiance	Kunderd	Aug. 27	Aug. 19
Delphi	Kunderd	Cormels	
Dunlaps	Kunderd	Cormels	
Early Pink	Black		Aug. 9
Empress of India	Velthuys		Aug. 10
Emperor	Kirchhoft	Aug. 16	Aug. 8
Europa	Pfitzer	Sept. 11	Sept. 3
Evelyn Kirtland	Austin		Aug. 26
Fayette	Kunderd	Aug. 18	Aug. 23
Fair Columbian	Kunderd	Aug. 15	Aug. 13
Frilled Pink	Woodruff		Aug. 5
Fire Ribbon	Kunderd	Sept. 12	Aug. 6
Gay Boy	Kunderd	Aug. 7	“ 7
George Paul	Lemoine		“ 16
Glory of Holland	Alkemade	Sept. 4	Aug. 19
Golden King	Black	Sept. 1	Aug. 13
Golden Glory	Kunderd	Aug. 20	Aug. 20
Grandeur	Kunderd	Aug. 15	Aug. 25
Gretchen Zang	Austin		Aug. 26
Halley	Velthuys	Aug. 6	Aug. 4
Herada	Austin		“ 4
Hiawatha	Hoeg		“ 17
Hillgirt No 1	Hutt	Aug. 7	Aug. 7
Hillgirt No. 2	Hutt	“ 25	Aug. 13
Independence	Woodruff	Aug. 11	Aug. 27
Intensity	Groff & Cowee		Aug. 25
Ida Van	Kunderd	Aug. 15	“ 18
Indianapolis	Kunderd	Aug. 18	Aug. 22
Jessie	Lemoine		“ 8
Klondyke	Christy		“ 13
Kunderd's Glory	Kunderd	Aug. 28	Aug. 23
Lady Borden	Gilchrist	Sept. 1	Aug. 23
Lady Macdonald	Kelway		“ 22
Lady McFarren	Kelway	Cormels	
La Luna	Groff	Aug. 15	Aug. 15
Lily Lehmann	Alkemade	Aug. 24	Aug. 14
Lord Courtney	Kelway	Cormels	
Lilywhite	Kunderd		Au25g.
Loveliness	VonKenj-nemburg		Aug. 19
Maize	Umpleby & Tracy		Aug. 2
Mary Pickford	Kunderd	Aug. 12	Aug. 11
Marie Lemoine	Lemoine		“ 4
Meadowvale	Cowee	Aug. 15	Aug. 10
Minnesota	Ruff	Aug. 19	Aug. 10
Monon	Kunderd	Aug. 19	Aug. 25
Mrs. Francis King.	Coblentz	Sept. 8	“ 25
Mrs. F. Field	Kelway		Sept. 3
Mrs. Frank Pendleton	Kunderd	Aug. 20	Aug. 19
Mrs. Dr. Norton	Kunderd	Cormels	
Mrs. A. E. Kunderd	Kunderd	Sept. 20	Sept. 18
Mad. Monneret	Brunelet		Sept. 2
Myrtle	Kunderd	Aug. 14	N. B.
Norma de Childs	Childs		Aug. 24
Negerfurst	Pfitzer	Aug. 24	Sept. 3
Niagara	Banning	Aug. 20	Aug. 17
Old Glory	Kunderd	Sept. 1	Sept. 3
Orange Glory	Kunderd	Aug. 23	N. B.
Panama	Banning		Aug. 26
Peace	Groff	Sept. 4	Aug. 29
Pink Yellow-throat	Hutt	Aug. 10	Aug. 8
Pink Beauty	Von Thol		Aug. 28
Pink Perfection	Hopman		“ 22
Pink Lady	Hoeg	Aug. 27	Sept. 3
Pride of Goshen	Kunderd	“ 23	N. B.
President Taft	Stewart		Aug. 29
Prophetess	(?)		“ 11
Princeps	Van Fleet		Sept. 2
Princepine	Kirchhoff		Aug. 20
Parexcel	Kunderd	Aug. 24	N. B.
Pellico	(?)	Sept. 8	Sept. 12
Queen of the Yellows	(?)		Aug. 17
Rose No. 1	Hutt	Aug. 18	Aug. 11
Rose 1910	Kunderd	Aug. 4	Aug. 16
Rose Glory	Kunderd	Aug. 15	Sept. 2
Rose Wells	Austin		Aug. 3
Red Knight	Kunderd	Aug. 30	N. B.
Rouge Torch	Groff & Tracy		Aug. 12
Salmon Pink	Hutt		Sept. 3
Schwaben	Pfitzer		Aug. 19
Sentinel	Kunderd	Sept. 2	N. B.
Scarlet Velvet	Groff		Aug. 16
Snow Boy	Kunderd	Aug. 25	Sept. 4
Summer	(?)		Aug. 25
Taconic	Cowee	Aug. 18	Aug. 16
Taconic Sport	Hutt		Aug. 27
Villa	Kunderd	Aug. 14	Sept. 1
Violet Glory	Kunderd	Aug. 12	Aug. 11
Victory	Christy		Aug. 27
Velvet King	Coblentz		Aug. 16
Wamba	Austin		Aug. 21
White Excelsior	(?)		Sept. 6
White Glory	Kunderd	Aug. 30	N. B.
Wine Drop	Kunderd	Aug. 12	Aug. 8
Winnetka	Kunderd	Aug. 18	Sept. 21
White Cluster	(?)		Sept. 27
Youell's Favorite	Kunderd	Sept. 14	N. B.

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*No Bloom.

PRIMULINUS HYBRIDS.

Alice Tiplady	Kunderd	Aug. 12	Aug. 4
Altair	Kunderd	Aug. 5	Aug. 5
Butterfly	Kunderd	Aug. 15	Aug. 11
Capella	Kunderd	Aug. 6	Aug. 11
Golden Gate	Kunderd	Aug. 12	Aug. 8
Groff's Yellow	Groff	Aug. 14	Aug. 8
Ghost	Kelway		Aug. 9
Roanoke	Kunderd	Aug. 6	“ 3
Sirius	Kunderd	Aug. 12	“ 10
Sulphur King	Childs	Aug. 20	“ 8
Sweet Ora	Kunderd	Aug. 6	“ 8
Vega	Kunderd	Aug. 14	“ 8
Unnamed in variety	Black	Aug. 20	“ 5

H. L. HUTT (Ontario).

A FEW NEW VARIETIES.

One bulb of each of the following varieties was planted on the 24th of April, 1918. Column 1 shows the height in inches on the first of June; column 2 the date of blooming; column 3 the height in feet and inches; column 4 the number of bulbs lifted, and column 5 the number of bulblets.

	1.	2.		3.		4.	5.
	IN.	D.	M.	FT.	IN.		
Adoration	11½	18	8	3		2	19
Arlon	2	30	7	3	3	2	70
B. L. Smith	9	14	8	2	6	1	5
Cassandra	10	2	8	4	3	3	50
Enon		1	9	2	3	3	1
Giant Myrtle	14½	14	8	4	3	2	51
Mona Lisa	9	17	8	2	9	1	25
Myra	9½	2	8	3	4	3	108
Nydia	13	2	8	4	1	4	60
Peach Rose	5½	4	8	3	9	1	48
Purple Glory	6¾	18	8	4	1	2	56
Ramona	10					5	21
Rodano	11	2	8	4	2	3	80
Rosalia	10½	6	8	3		2	14
Topaz	8	29	7	3	9	2	100
Ulrica	11	21	8	3	9	3	40
Yeoman	9	11	8	3	9	3	35
Zenobia	12½	29	7	4		2	38

SMILAX (England.)

DOUBLE GLADIOLUS FLOWERS, ETC.

Estelle Gilbert mentions some of her Gladioli putting out double flowers. I have already found several this year for first time—*Pink Beauty, Halley, Pink Perfection* and *Niagara,* have all thrown out double flowers. I thought the cause might be from the extreme rainy weather which has caused mine to make rank growth and of unusual height. Several have already attained a height of five feet.

I wish to thank Mr. Tippett for the "tip" on cutting the corms to multiply stock. Many times have wished to make the attempt and now will surely do so. My first *Pink Beauty* opened its flowers July 4th, the first taken to market was July 10th. Last year my *Niagara* came and was nearly all gone before *Schwaben* came, while this year they are opening at same time, also *Mrs. Frank Pendleton.* These were planted the last week in April this year.

THE FLOWER GROWER is a great help to me.

F. B. C. (Mass.)

TIME FROM PLANTING TO BLOOMING OF GLADIOLI.

The following data of planting and blossoming time of Gladioli may prove interesting:

Name	Planted 1917–18	Blossomed	Days
America	Jan. 14	June 1	136
“	Mch. 3	June 15	102
“	Mch. 27	June 25	90
Pink Beauty	Nov. 22	Apr. 8	136
Baron Hulot	Jan. 11	June 1	140
“	Feb. 3	June 1	118
“	Mch. 3	May 28	85
“	Mch. 26	June 15	80
Niagara	Jan. 11	June 8	147
“	Jan. 14	May 4	120
“	Feb. 18	June 16	118
Panama	Jan. 14	May 14	120
“	Mch. 3	June 15	102
“	Mch. 9	June 9	90
“	Mch. 27	June 25	118
“	April 13	July 13	90
Empress of India	Feb. 7	June 15	128
“	April 8	June 27	79
Salmon Queen	Nov. 20	Apr. 10	140
“	Nov. 22	May 5	162
Kunderdi Glory	April 18	July 1	73
Lily Lehmann	Feb. 18	June 9	112
“	Mch. 16	June 8	82
“	Mch. 27	June 15	78

If there is anything to be learned from above it is that much of the time elapsing from planting to blossoming is due to condition of the corm and location in planting as note the result in *Baron Hulot* where one set of corms planted January 11th and another Feb. 3rd produced blossoms on same date. Also *Niagara* where one set planted Jan. 14th blossomed a month earlier than the set planted Jan. 11th, and *Salmon Queen* planted two days apart blossomed nearly a month apart.

The only advantage gained by early planting seemed to be a larger corm and more abundant cormels resulting.

C. P. HUBBARD (Calif.)

EARLY BLOOMING OF GLADIOLI.

This year I planted *Halley* and *Pink Beauty* on March 15th. Cut the first *Pink Beauty* June 27th and the first *Halley* on July 6th. *Halley* planted on April 29th, bloomed July 17th, and *Halley* planted May 3rd bloomed July 18th.

E. M. SMITH.

The shipping and keeping qualities of the various varieties of Gladioli are an interesting study. The editor in shipping to the Detroit show this year noted two varieties of exceptional keeping qualities, the Diener variety, *Anna Eberius* and the Kunderd variety, *Mrs. Dr. Norton.* Some varieties are so flimsy that it is almost impossible to ship them and stage them at the flower shows, whereas the keeping qualities of others are extremely satisfactory in comparison.

Northwestern Peony and Iris Society.

What can be more beautiful and bring one in closer touch with the beauty of nature than to visit a Peony or Iris field when in full bloom. The massive and stately Peony will doubtless overshadow any other flower and while it possesses many beautiful colors and combinations of shading, it cannot vie with the Iris in color combinations, for here we have the lavender, purple with its various shades, gold, with combinations of maroon and purple, delicate to deep blue, bronze and yellow and countless variations of shade and color that almost defy adequate description.

It was my pleasure early this spring to visit W. E. Fryer of Mantorville, Minn., who has developed many fine new varieties of Irises. As we passed back and forth through the field of new seedlings it was easy to understand the enthusiasm and deep interest that was manifested by my host as we viewed for the first time some new creation that he had been eagerly watching to make its appearance. I was particularly impressed with the vigor of the Glory strain. He has originated a number of very fine Irises of the Glory strain that are among the very best I have seen. Among these might be mentioned *Fryer's Glory, Mrs. W. E. Fryer, A. M. Brand, A. E. Kunderd, Red Glory, Minnesota, Clarence Wedge,* and many others. I found Mr. Fryer a very severe critic, and a flower that he passes to be named and propagated must pass a high standard of excellency or possess some element or characteristic that makes it out of the ordinary.

I am free to confess that the Peony has appealed to me more than any other flower and has been sort of a hobby with me, but the Iris, both the standard varieties and the more recent introductions, are rapidly being recognized and are finding their place in every well arranged garden and landscape planting scheme, as they fill in a gap that no other flower can fill. *Fairy,* with a perfume that is entrancing, a delicate coloring that defies adequate description, still haunts me with its beauty. *Dorothea,* milky white, tinged lilac, with six falls resembling a Japanese Iris struck my fancy, as did *Rose Unique,* one of Mr. Farr's seedlings, a delicate blush rose, *Mrs. H. Darwin,* with standards pure white and falls slightly veined; *Oriflamme,* with standards of bright blue and falls of dark purple, and, space permitting, I might name many others equally good.

Miss Grace Sturtevant of the Glen Road Iris Gardens, Wellesley Farms, Mass., has originated many wonderful Irises which may be found listed in descriptive circulars and catalogues issued by eastern growers. They will be gladly welcomed in the west where they are not so well known at the present time, stock of many of the varieties being very rare and limited.

Bear in mind that Irises may be planted in August and September to best advantage and that Peonies will do best if planted in September and early October. They can, however, be planted any time before the ground freezes, but should be protected the first winter until they get a chance to become established. Give your nurseryman a chance by placing your orders as early as possible. Many new catalogs of both the Peony and Iris are being received by the writer and there is one consolation to note that the prices have not increased to any great extent, most prices remaining stable notwithstanding the fact that it costs much more to produce plants due to the high cost of labor and materials. Let's make our gardens resplendent next year with Peony and Iris bloom by liberal plantings this fall, and experience a closer affiliation with the beauties of nature.

W. F. CHRISTMAN, Sec'y.

Massachusetts Horticultural Society Exhibition.

The exhibition at Horticultural Hall, Boston, August 9 and 10, was not as large as last year but the quality was far superior. Although there were no prizes for commercial growers they were well represented, and the exhibits of H. E. Meader and S. E. Spencer were as good as ever shown there.

Mr. Meader was awarded a Silver Medal on his display in which *Myrtle* and *Lilywhite* had a conspicuous position. He was also given a First Certificate of Merit on *Lilac Royal,* a large vase of which was shown.

Mr. Spencer was also given a Silver Medal for his display and a Cultural Certificate for the excellent quality of the bloom shown in which *Mrs. Dr. Norton, Pink Perfection, Peace* and *Mrs. Pendleton* were prominent. He was also given three "Honorable Mentions" on new seedlings.

B. Hammond Tracy showed a large number of vases of *Primulinus Hybrids* with good effect.

The Boston Cut Flower Co. made an elegant display of Gladioli arranged in baskets and was given a Silver Medal.

J. K. Alexander had a large display of Gladioli and Phlox and received a Bronze Medal.

Thomas M. Proctor had a good display including well grown *Loveliness.*

C. W. Brown showed 50 varieties of new seedlings and was given an "Honorable Mention" on two new whites.

Mr. A. E. Kunderd made a good display and was awarded First Class Certificates of Merit on the two varieties *Salmon Beauty* and *Peach Rose.*

In the regular classes for amateurs Mr. A. L. Stephen carried off the honors winning first in five classes of six vases, six varieties, one spike of each in white, pink, red, yellow and lavender.

The class for *Primulinus Hybrids* was won by Faulkner Farms, and the best single spike of seedlings by E. M. Brewer.

The wonderful spikes of *Europa,* grown by A. L. Stephen, attracted the most attention of anything in the show. C. W. BROWN.

Fifty Years Acquaintance with the Gladiolus.

[*Written expressly for The Flower Grower.*]

BY HENRY C. ECKERT.

(*Continued from August issue.*)

Even the wet seasons, when rain comes down in torrents overflooding the land as it did this year in May and June, are not always favorable for Gladiolus culture. Some of the very best varieties like *Prince of Wales* and *Halley,* if the soil is too wet, will get diseased and die, and this has been my experience this season.

My object was at first to produce flowers for the cut flower trade, and only three years ago I started to raise corms for sale. Two events happened about ten years ago which were more the cause of my entering the trade than anything else. These two events which aroused my enthusiasm and interest in Gladiolus culture, were the advent of Kunderd's *Mrs. Frank Pendleton,* which even now stands at the front as one of the most beautiful Gladioli in the trade. The other event was the report I read of Wilhelm Pfitzer of Stuttgart, Germany, with the great show he made in London with his pure white *Europa* and other hybrids, beating the English and French exhibitors, but with me his *Europa* was a complete failure, as it cannot endure the trying climate of Southern Illinois, and what a valuable variety it would be if it had the vigor and constitution of his yellow production, *Schwaben.* For the first corm of *Mrs. Frank Pendleton* I paid one dollar, and the beauty, size of flower, and the vigorous plant, were a surprise to me, and I doubt if Mr. Kunderd has produced another variety that has so many good points as this one of his first productions.

Well, I got the Gladiolus fever bad, and started with orders for seeds and bulblets, which I must report as complete failures. I ordered several ounces of seed from Wilhelm Pfitzer, and as Gladiolus seed is very light there were several thousand seeds. They came out nice but when the hot summer sun came, they blasted away and only about six were left in the Fall, which with the exception of one were nothing extra, that single good one is the best yellow I ever saw, but it does not increase and after six years' planting it is still a single bulb. My planting of bulblets was no better in the beginning, only a few sprouting, till I received the information from a northern grower to put them in hot water five or six days. By this process most of the varieties came out well, but there are some sorts that do not respond even to the hot water treatment.

[*To be Continued.*]

We were a long time in getting index for Volume V THE FLOWER GROWER, but it is now ready and can be had by all subscribers for the asking. Bound Volume V is also ready for distribution. Those who placed advance orders have doubtless received it before this time. The price is $1.75 postage prepaid.

THE PEONY

How to Hybridize Peonies.

By A. P. Saunders, Sec'y, in
Bulletin No. 8, American Peony Society.

LET US ASSUME first that we had the task of instructing someone who knew nothing of the structure of a flower, as to what the parts of a Peony bloom are, and how it is to be hand-fertilized with pollen from another variety.

We should, I suppose, take a single variety, as being the simplest, and show him first the petals, which, though so conspicuous, take no direct part in the development of the seed, but are there only to make the flower visible and attractive to insects. So, since we are to see to the fertilization of the flower ourselves, they may just as well be removed.

The next layer of structures inside the petals are the stamens. These are the pollen producing organs, and each consists of a thread-like stem, the filament, and a yellow sac filled with pollen, the anther. When the anthers burst, thousands upon thousands of microscopic, wheat-shaped pollen grains are scattered about, and any one of these may bring about the fertilization of a seed.

At the very centre of the flower are the seed pods themselves. There are generally three of these. They are called carpels, and upon the top of each of them is a sort of ridge; this is the stigma, and it is here that fertilization occurs. When a pollen grain is placed on the stigma, it sends out a process called a pollen tube, which penetrates down through the substance of the stigma into the pod itself, and there penetrates into one of the individual seeds. Through the pollen tube the contents of the pollen grain are emptied into the seed, fertilizing it and causing it to grow into a mature seed.

In cross-fertilization, therefore, we must remove the stamens of the flower on which we intend to produce seed, and bring pollen from another variety with which to effect fertilization. The seed-bearing plant which receives the pollen, is called the female, and the one from which the pollen comes is called the male.

Our pupil will now want to know something of the technique of the process. This involves three steps, which I shall describe under separate headings:

Stripping the Flower—The bloom on which pollination is to take place must first be "cleaned up." When this is done, nothing is left of it but the seed pods themselves. We first remove with the forceps all the petals, because they are of no use and get in our way; then we remove all the stamens, because if we do not, the flower will probably fertilize itself. Furthermore we must see to it that we get the stamens stripped off before any of them have burst. That means that the flower must be stripped early in its history. With double blooms containing few stamens or none, we are generally safe if we stip off the petals at about the time when the bud is unfolding enough to show the inside. With single flowers it is usually then too late; these must as a rule be stripped well before the stamens are visible. When you think the bloom might open out about the following day, tear off the petals and you will find a tight mass of stamens on the inside. Take a look at these with the magnifying glass, and see whether any have burst. If they have, you will almost surely find pollen grains adhering to the stigmas. At the time when the anthers begin to scatter their pollen grains, the stigmas become covered with a sticky fluid to which pollen grains tightly adhere. Hence if you find any pollen grains there, give up that flower and take one not so far along.

When you get one that shows the stigmas apparently free from pollen, and with no anthers that have split open, clean it up, being very careful to remove every stamen. Then take a critical look at the stigmas and see that they are (1) free from pollen grains, and (2) sticky. If they are not sticky you should put a bag over the flower and work on it the following day. But assuming that they are in good condition proceed to the next operation.

Getting the Pollen and Pollenizing—This is a simple matter if you have decided from what flower to take the pollen. Rather the best plan in my opinion is to have a glass vessel in which to place the anthers of the variety you wish to use as the male parent. What the biologists call a Petri dish, in a small size, is excellent, as it has a cover; but an ordinary little watch crystal does very well.

Pull off a few of the anthers and set them in the glass vessel, then tap it underneath so as to shake the anthers up and down. If they are in the right condition they will shake out a quantity of pollen on the surface of the glass. Now carry this back to the stripped flower, pick up some of the spilled pollen on the end of a very small sable brush, and dab it on to the stigmas until their sticky surfaces are well powdered over. If you have no brush, the best plan is to pick up an anther in the forceps, and rub it on the stigma until some of the pollen comes off; but you will find it all much easier and quicker using a brush. Our task is now accomplished, and all that remains is to protect the bloom from contact with any other pollen, and to mark it with a label.

Bagging and Labelling – Very small paper bags may be had for almost nothing. One of these drawn gently down over the fertilized bloom and tied about the stem, will protect the bloom from further dangers, and may remain until the seed is ripe. So far as protection from other pollen is concerned, a few days would suffice for that; for the stigmas dry up very soon after fertilization has taken place, and when they are dry, fertilization is impossible. But if the bags are removed, there is danger in the autumn that the pods may burst and scatter the seed before it is gathered. I generally, therefore, tie the bag on tight and leave it until the time of ripe seed. A little peep-hole may then be cut in the top and the pod can be watched every few days until it is seen to open and disclose the brown seeds within.

For labels I use the little cardboard "string tags." They usually remain legible through the summer rains if the writing is done with a good black pencil.

The process of doubling in a flower is considered to be really a transformation of the other parts into petals. First the stamens are transformed, and finally the alteration may even extend to the carpels. In such cases it is often impossible either to get pollen from a bloom or to effect fertilization on it. Sometimes, however, when transformation has been almost complete so far as the stamens are concerned, a few petals may be found towards the centre of the flower, possessing thick yellow edges. If these thickenings are split open with a small knife blade or a pin, pollen will be found inside—not much, but enough to work with.

Different sorts show great variations as seed producers; some which apparently possess seed pods rarely if ever produce seeds. *Duchesse de Nemours* (Calot) is one of these. I have crossed on it several times and have never got anything. In some blooms it is almost or quite impossible to find any stigmas on which to place pollen. Richardson's *Grandiflora* is a flower where the process of transformation seems to have sacrificed everything to the production of petals; and so with many others. I have never been able to do anything with *Thérese*; but Mr. Ringle, of Wausau, Wis., reported some time ago having got a few seeds from it after repeated trials.

There are some varieties on the other hand that are conspicuously good seed bearers. One of these is *Primevere*. I think I have never found any pollen on it, but I use it every year as female parent and it sets such grand pods of seed that the stems have to be staked to keep them from being broken by the weight of the seed. I mentioned in Bulletin No. 5, a bloom of *Primevere* from which I had taken 61 good seeds.

Other good female parents are *Venus* and *Marie Crousse*, neither of which ever show pollen of their own. *James Kelway, M. Martin Cahuzac, Adolphe Rousseau*, are also good seed producers, but they all have stamens, and should be carefully examined before being used. The Japanese blooms almost always set seed well; and though it is very unusual to find any free pollen on them, some may almost always be had by opening up the thickened edges of the central petaloids.

A curious case is that of the Wittmanniana hybrid, *Le Printemps*. It happens to be the only one of these hybrids in my garden of which I have large and robust plants. It is a single, with stamens and carpels apparently well developed. Yet in spite of repeated efforts through several years, I have never had a fertile cross either on the plant itself with other pollen or on any other sort where the pollen of *Le Printemps* was used. It is, I suppose, a sterile hybrid.

Generally speaking the singles yield large quantities of seed. Most of them came themselves out of double strains, and from their seed there comes a large percentage of double progeny. Hence they ought to prove pretty satisfactory as seed parents for crosses.

Last year I had a strange disappointment in connection with P. *lutea* as female parent. I had made some crosses on this species using pollen from Chinese Peonies, and was rewarded with half a dozen immense pods of seed. When the pods burst, there they were, two or three dozen big black glossy seeds. But when I got them out, I noticed that they gave a little under pressure between the fingers, and on breaking one open, I found that the seed was nothing but a tough shell, there was nothing inside. And so it proved with all of them. Now generally speaking, when a cross fails the seed pod soon shrivels and dries up, but these had all the appearance of the most successful crosses. What sort or degree of fertilization was brought about here that would produce big seed pods, and fine looking seeds, yet all only a hollow pretense?

I have spoken of several little implements that the hybridizer needs, and now for the sake of those who do not live in large cities, I shall tell where these things may be had.

Magnifying glass. Get what is called a doublet magnifier, giving 14 diameters magnification. They cost about $1.25 to $1.50, and may be had from the Kny Scheerer Co., 404 West 27th St., New York, from the Scientific Materials Co., Pittsburg, Penn., or from any scientific supply house. In using, the glass must be placed very close to the object and the eye almost touching the glass.

Pincers. I like what are called Denton Forceps, but any small sized pincers will do. Carried in most drug stores. The Denton Forceps may be had from the Kny Scheerer Co., for about 50 cents.

Petri Dishes or Watch Crystals (watch glasses) may be had from either of the above firms. Petri Dishes. 2 inch, about 20 cents each; watch glasses cheaper.

Small Sable Brush, at any art store.

Tags for Labeling. I use Dennison Marking Tags 36 B. They are of good size.

American Gladiolus Society.

(*Continued from page 87.*)

The winners and winning varieties in the Open to All Class are as follows:

OPEN TO ALL.

No. 1—Best collection, 20 varieties, 3 spikes each named, 1st, $12.50, 2nd, $7.00. First won by C. Zeestraten with *Purple Glory, Catharina, Herada, Prince of Wales, Baron J. Hulot, Mrs. F. Pendteton, L' Immaculee, Niagara, Peace, Panama, Myrtle, Schwaben, America, Loveliness, Dominion, Mrs. Dr. Norton, Liebesfeuer, Chautauqua White.* Second won by United Bulb Co. with *Witbrink, Evening Red, L' Immaculee, Prince of Wales, Wolverine, Ohio, Yellow Standard, Morning Glory, Mr. Mark, Maine, Red Emperor, Golden Glory, Clear Eye, Goliath, Lisse, Radium, Mrs. F. King.*

No. 2—Best 12 varieties, 3 spikes each named. 1st, $7.50; 2nd, $5.00. First won by Joe Coleman with *Gold Bound, Arbutus, Golden Gem, Tawny, Sheila, Nymph, Lesta, Sharonrose, Superba, Georgette, Echo, Josephine.* Second won by C. Zeestraten with *Niagara, Liebesfeuer, Loveliness, Mauve Queen, Panama, L' Immaculee, Purple Glory, Schwaben, Prest. Wilson, Rouge Torch, Myrtle.*

No. 3—Best 12 vases, 12 varieties, 1 spike each. 1st, $6.00; second, $3.00. First won by Joe Coleman with same varieties as class No. 2. Second won by H. E. Meader with *Richard Diener, Mrs. Dr. Norton, Jack London, Schwaben, Red Emperor, Bertrex, Golden Glory, Wetona, Panama, Mrs. F. King.*

No. 4—Five vases, 5 varieties, 6 spikes each, predominating color yellow. 1st, $10.00; second $5.00. First won by Madison Cooper with *Yellow Hammer, Golden King, Schwaben, Yellow Bird, Mrs. Dr. Norton.*

No. 5—Six spikes, White, one variety named. 1st, $4.00; 2nd, $2.00. First won by Madison Cooper with *Europa.* Second won by United Bulb Co. with *Maine.*

No. 6—Six spikes Yellow, one variety named. 1st, $4.00; 2nd, $2.00. First won by Madison Cooper with *Schwaben.* Second won by E. C. Ludwig Floral Co. with *Schwaben.*

No. 7—Six spikes, Pink or Blush, one variety named. 1st, $4.00; second, $2.00. First won by Madison Cooper with *Pink Perfection.* Second won by J. F. Munsell with *Ashtabula.*

No. 8 Six spikes, Crimson or Red, one variety named. 1st, $4.00; 2nd, $2.00. First won by Madison Cooper with *Red Emperor.* Second won by H. E. Meader with *Red Amarillas.*

No. 9—Six spikes, Blue, Purple or Lavender, one variety named. 1st, $4.00; 2nd, $2.00. First won by Joe Coleman with *Herada.* Second won by H. E. Meader with *Byron L. Smith.*

No. 10—Six spikes, Ruffled, one variety named. 1st, $4.00; 2nd, $2.00. First won by Madison Cooper with *White Glory.*

No. 11—Best Seedling Gladiolus never before exhibited. American Gladiolus Society's Medals. 1st, Silver Medal; 2nd, Bronze Medal. First won by Joe Coleman. Second won by H. E, Meader. Honorable mention, J. F. Munsell.

W. E. Fryer, Mantorville, Minn.

No. 12—Best 12 spikes *Mrs. W. E. Fryer*; 1st prize, 50 bulbs of that variety.

H. E. Meader, Dover, N. H.

No. 13—Best 12 spikes *Myrtle.* First prize, cut glass vase, value $10; second prize, 25 bulbs of that variety. First won by Madison Cooper.

No. 14—Best 3 spikes *Lilywhite.* First prize, 20 bulbs of that variety; second prize, 12 bulbs; third prize, 6 bulbs. First won by Madison Cooper.

Mrs. Francis King, Alma, Mich.

No. 15—Best and most artistically arranged basket or hamper fifty spikes Gladioli using different varieties in harmonious combination. First prize, $12.50; second prize, $7.50; third prize, $5. First won by B. Hammond Tracy. Second won by C. Zeestraten. Third won by H. E. Meader.

Chautauqua Flowerfield Co., Bemus Point, N. Y.

No. 16—Best and most artistically arranged vase of 25 spikes. Prize, $10.

W. Atlee Burpee & Co., Philadelphia, Pa.

No. 17—Largest and best display, number varieties, quality and staging considered. Burpee Cup valued at $25. The winner taking this cup the third time to hold it permanently. Won by National Bulb Farms, Inc.

B. Hammond Tracy, Wenham, Mass.

No. 18—Best vase 25 spikes *Primulinus Hybrids.* First prize, $6; second prize, $4. First won by C. Zeestraten. Second won by Madison Cooper.

C. Betscher, Dover, Ohio.

No. 19—Best vase or basket 25 or 50 spikes *Primulinus Hybrids.* Range of color, size and color value to rule. First prize, one Peony, *Longfellow*, value $10, and one Peony, *Chestine Gowdy*, value $10. Second prize, one Peony, *Therese*, value $10. First won by B. Hammond Tracy. Second won by C. Zeestraten.

Vaughan's Seed Store, Chicago, Ill.

No. 20—For the best 25 blooms each of *Margaret, Chicago Salmon* and *Mrs. Brewster*, or for 75 blooms of any one of these varieties, offers a silver cup to the value of $15.

Homer F. Chase, Wilton, N. H.

No. 21—For best 25 spikes *Mrs. Watt*, $5. First won by H. E. Meader.

John Zeestraten, Mansfield, Mass.

No. 22—For best six spikes *Prince of Wales*, offers stock to be selected from his next season's price list. First prize $7.50; second prize, $5; third prize, $2.50. First won by C. Zeestraten. Second won by Madison Cooper.

Richard Diener Co., Kentfield, Calif.

No. 23—For best spike *Thomas T. Kent.* First prize, $6; second prize $4; third prize, $2.50.

No. 24—For best spike *Anna Eberius.* First prize, $6; second prize $4; third prize, $2.50. First won by Madison Cooper.

Geo. Churcher, Woodcote, Alverstoke, Eng.

No. 25—For best three varieties of blue Gladioli, three spikes, each. First prize $5; second prize, $4; third prize $3; fourth prize, $2; fifth prize, $1. *Baron Joseph Hulot* and *Blue Jay* not to be admitted in competition. First won by C. Zeestraten with *Dick, Catharina, Hubertus,* Second won by H. E. Meader with *Mabel Hubbard, Bluebell, Dainty.* Third won by United Bulb Co. with *Mr. Mark, Conspicuous, Catharina.*

I. S. Hendrickson—Emma E. Patterson.

No. 26—Center piece not more than 18 spikes grown and arranged by the exhibitor (any foliage may be used). First prize $10; second prize $5. First won by C. Zeestraten. Second won by H. E. Meader.

Emma E. Patterson, Burlington, Wis.

No. 27—Best Gladiolus spike raised from a cormel. First prize $3; second prize $2.

A. H. Austin Co., Wayland, Ohio.

No. 28—For the best display of the Austin originations. First prize, Silver Medal; second prize, Bronze Medal; third prize, stock of the Austin originations to the amount of $3; fourth prize, stock of the Austin originations to the amount of $2. First won by Madison Cooper with *Bertrex, Candidum, Halo, Evelyn Kirtland, Herada.*

THE FLOWER GROWER, Calcium, N.Y.

No. 29 To every exhibitor in the Open Class, not already a subscriber to THE FLOWER GROWER, one year's subscription.

A. E. Kunderd, Goshen, Ind.

No. 30.—First prize, Gold Medal; second prize, Silver Medal; third prize, Bronze Medal. Largest and finest collection of Kunderd varieties. Quality of bloom to determine award in case of collections of about the same size. First won by Madison Cooper.

Offers in each of the following classes bulbs to the value of the prizes set forth for each class:

No. 31—Best 6 spikes *Purple Glory.* First, $5.00; second, $3.00. First won by Madison Cooper, Second won by H. E. Meader.

No. 32—Best 6 spikes *Myrtle.* First, $5.00; second, $3.00. First won by Madison Cooper.

No. 33—Best 6 spikes *Mrs. F. Pendleton.* First, $5.00; second, $3.00. First won by Madison Cooper,

No. 34—Best 6 spikes *Summer Beauty.* First, 5.00; second, $3.00. First won by Madison Cooper.

No. 35—Best 6 spikes *Mary Pickford.* First, $5.00; second, $3.00.

No. 36—Best 6 spikes *Pride of Lancaster.* First, $5.00; second, $3.00.

No. 37—Best 6 spikes *Orange Glory.* First, $5.00; second, $3.00. First won by Madison Cooper.

No. 38—Best 6 spikes *Arizona Rose.* First, $5.00; second, $3.00.

No. 39—Best 6 spikes *Sweet Orra.* First, $5.00; second, $3.00.

No. 40—Best 6 spikes *Butterfly.* First, $5.00; second, $3.00.

Catalogues and Price Lists.

Willis E. Fryer, Mantorville, Minn.—Catalogue and Price List of Fryer's new Irises. Complete descriptions of named varieties.

Movilla Gardens, Haverford, Pa.—Thirty-six page catalogue and price list of rare and choice Peonies, Irises, Phloxes, &c. Exceptionally complete descriptions.

Gladiolus *Mrs. Francis King*, which Mr. Eckert stated in the July issue was introduced by P. O. Coblentz, while originated by Mr. Coblentz, was introduced by Vaughan's Seed Store.

The Glad Philosopher's Musings.

The optimist always expects to find a pearl in his oyster soup, while the pessimist is sure he is going to get ptomaine poisoning from eating it.

A woman recently showed great surprise when I informed her that I had paid five dollars for a root of the Peony *Richard Carvel*, and a like sum for a root of *Therese*, and considered them cheap at that. And this same woman wore a hat bedecked with rag imitation flowers that cost not a cent less than twenty or twenty-five dollars, and which will be thrown in the ash can or sent to the rummage sale within six months.

And I have just ordered *La France, Solange* and *Lady Alexander Duff*, and am going to save up my pennies to buy *Le Cygne* and *Kelway's Glorious* next year. Oh, well, she's probably laying her plans to buy a new winter hat, so we're both happy in our anticipations.

Just think of it: *Therese, Le Cygne* and *E. B. Browning* will probably in fifty years hence be referred to as "grandmother's peonies."

Many people erroneously think that Irises need moist ground to thrive. Only a few kinds prefer such a situation, and the popular family that we have so long mis-called German Irises do best in extremely dry and sunny places. A few years ago I tried some of them on a dry, gravelly bank above a roadside which I wanted to brighten up with some kind of flowers. They gave a much better account of themselves than the same varieties planted in a rich flower border amongst Peonies and Phloxes. Rev. C. S. Harrison, in his Iris Manual, heralds the Iris as the ideal flower for the dry, arid regions of New Mexico and Arizona where few of our most popular flowers thrive. "Treat 'em rough" seems to be the idea in growing Irises, for they die if manured, and do not appreciate fussing or coddling.

I like Mr. Groschner's suggestion of substituting "Flag Iris" or accepting the French name, Fleur de lis, either of which to my mind, would be preferable to "Liberty Iris," which some have already adopted. In any event, it should never again be catalogued as "German Iris," which is anything but appropriate.

THE GLAD PHILOSOPHER.

Flower Seeds

Geo. P. Buck & Son
Collingswood - - New Jersey

THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

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FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
Entered as second-class matter March 31, 1914, at post office at Calcium, N.Y., under act of March 3, 1879.

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BEGONIAS.

Their Origin, Classes and Culture.

[*Written expressly for The Flower Grower.*]

By M. Downing Brainard.

NAMED FOR M. BEGON, Governor of St. Domingo, more than two hundred years ago, the Begonia was first introduced into this country from Jamaica in 1777.

Like many an aristocrat of our day, it commenced life an ambitious little plebeian with no particular merit on which to build a status. So much the more credit for the kingdom it has conquered, for the throne it now holds in the worldom of plant life, for its aristocratic pedigree established through a long line of hybridizing and hand-pollenizing.

Native of Asia, tropical and semi-tropical America, these beautiful plants are found in the Islands of the Pacific and on the Greater and Lesser Antilles. Divided into three distinct classes, viz: fibrous or shrubby, rex, and tuberous, they form a most interesting study; but, coming to us as they have from warm, dampish homes, an erroneous idea as to necessarily protected surroundings for their successful growth, has imbued the minds of many flower-growers so, they fear to attempt their cultivation outside of greenhouses.

There never was a bigger mistake. We speak from our own experience. Few exotics have greater powers of resisting heat and cold, or, yield more readily to fresh-air methods. Some specimens require partial protection; hence, should be planted in sheltered angles on the east side of a house; or in half sunny locations under trees and shrubbery. Others will grow, bloom and flourish in the full sunshine.

Odorata alba, for instance, one of the hardier sorts, can stand drouth, heat and cold to an extra degree. It is a semper-floren (always blooming) and invaluable for cut flowers.

Of course, Begonias raised in a greenhouse must be hardened by degrees to the lower temperatures found in open house or out-door cultivation. Sudden exposure to the life of free-growing, fresh-air plants, would have the same injurious effect upon them that sudden, drastic draughts of heat and cold have upon an "incubator baby."

GLADIOLUS—*PRIMROSE BEAUTY.*

Originated by A. E. Kunderd, Goshen, Ind., and introduced by him in 1918.
Described as a tall and strong growing variety with very large blooms and of a primrose yellow color.

Begonias are seldom troubled by insects. Neither are they breeders of pests and when infected through other plants are easily cleaned.

Another distinctive feature found in the study and cultivation of Begonias is, unlike most bloomers, the reproductive organs are found in separate flowers. For this reason, to secure seeds from most varieties—semperflorens always excepted—hand-pollenizing is necessary. However, to know how to pollenize, one must understand the construction of flowers.

FIBROUS OR SHRUBBY BEGONIAS.

These are divided into several sections. The Semper-floren section is plainly marked by its upright growth, hardihood, similarity of foliage in all species. The stamenate flowers are more attractive than in other divisions, owing to a greater number of larger stamens to which there is a perpetual quivering. This section pollenizes its own flowers. The two sorts of flowers are grouped by nature so near each other that the constant motion of the stamens throws off the pollen which is easily caught by the pistillate flowers.

The most beautiful specimen of fibrous Begonia we ever saw belonging to this special section, was a hybrid, Semperfloren Gigantea rosea. Immensely vigorous, the leaves as big as small saucers, and the great panicles of magnificent shell-pink blossoms from an inch to an inch and a half long, made us catch our breath at the thought of nothing more charming. To this same section belongs *Vulcan*, a dazzling red, and *Vernon*, a fine crimson. In contrast, comes *Bijou*, the dwarf, followed by reds and pinks and whites, all similar and all good for garden-borders.

Big tropical leaves, all round and

shining, lying close to the soil, out of which spring long stems topped by immense panicles of feathery flowers mark another section. *Recinafolia* and *Rubella* are among the best varieties.

To a fourth section of the fibrous belong species which send up from that base of the plant where the taproot distributes its rootlets, canes so vigorous, so straight, so stately, that one is reminded of bamboo. These shoots, if never let dry out, grow with the rapidity of Jack's fabled bean stalk. The thick leathery leaves and brilliant showers of bloom, the rapid growth under one's eyes as one stands and watches, make these varieties very gods whose shrines of beauty one is loath to quit.

A ten by twelve inch pot will hold food and drink enough for one of these plants three to four feet tall bearing thirty to forty panicles of flowers at one time. The *Rubra*, an old-time favorite, is still holding its own by the side of *Otto Heckor* and *President Carnot.*

The Giant Tree Begonias, creations of Mrs. Theo. B. Shepherd, the pioneer seed grower of the Pacific coast, are hybrids from crossing the *Rubra* with *Glorie de Jouy* of Rex ancestry. The successful experiment was the result of many years of hunting-for, and mating-with, the right affinities, for, do you know flowers have affinities as well as man, and without these affinities, no hybrid can be produced. Patience, study, research, toil and care, rounding up with absolute failure, marked a road full of disappointments for years before that experiment in twenty-four tests (in the dropping of the petals,) told the marvelous story of success to the female wizard, whose hand had found at last and united the "soul-mates" which were to give out a new line of wonderful creations.

The result of this crossing gave many fine specimens, possessing the cane habits of the *Rubra*, its long stemmed flowers in huge panicles ; but an extra beauty was added to the flowers in an inheritance from the *Glorie de Jouy;* the petals and pistils were much larger. Then, too, this Rex ancestry took on the coloring of the leaves. Lustrous and shimmering like silk, some lined with wine tints, some lighter reds, and some bearing a flush like the bloom on a young girl's cheek—oh, but they are beauties! Six years passed from the first planting of the first broken strains to the final crossing before Mrs. Shepherd had any stock for market. Of these hybrids, *Fair Rosamond* and *Majeska* are among the finest. Another successful crossing of the *Rubra* with a trailing sort, the *Glaucaphylla-scandens,* by Mrs. Shepherd, gave us *Marjorie Daw.* Mrs. Shepherd considered this a marvel for blooming and for rapid growth.

REX BEGONIAS.

Are cultivated exclusively for the wondrous beauty of their leaves. Anyone can grow them who cares to by giving them the right treatment, remembering always, the main point of this right treatment, unlike either fibrous or tuberous, viz: is never to water the leaves. Watering the leaves will gradually kill the plant. They grow readily in ordinary pot soil, requiring water about once every ten days. The hybrids are hardier, growing more readily. We have never tried cultivation beyond the hall and open porch.

Unlike the fibrous class, florists usually propagate Rex Begonias from leaves instead of cuttings. Any time between May and October is favorable. Fully grown leaves are selected and cut from the plants, leaving about an inch of the stem attached. With a pair of sharp scissors the leaf is all cut away to within an inch of the stem. This leaves only the "heart" of the leaf. Proceed now to slit the ribs apart being careful not to separate them from the center and stem. Plant the stem, pressing the leaf-remnant close to the earth so that the little plants to spring from the ribs may be able to catch their rootlets in the ground. Keep the ground moist and semi-shaded and in a short time the "baby plants" will peep their little faces at you.

TUBEROUS BEGONIAS.

As Rex Begonias are grown exclusively for their resplendent foliage, tuberous Begonias receive the same attention for their large and brilliantly colored and delicately shaded flowers.

Not until 1864 have we any definite knowledge of this special class. Then a specimen came to us from Bolivia under the ponderous name of "Boliviaensia," which name completely overshadowed its plebeian personality. The next year, Bolivia sent us a better representative in yellow instead of red flowers, larger foliage, and bearing the name of B. *piercii.* Closely following came B. *veitchii* from Peru. With large round flowers of vermilion cinnabar-red, it made a splendid record for itself being pronounced a popular favorite at once. Seven years later, B. *froebilli,* a very beautiful variety with velvety-red foliage and large intensely scarlet flowers, was introduced from Ecuador.

From these five species all our wondrous tuberous kinds of to-day have originated. English and French experts have been foremost in the transformation.

LENGTH OF BLOOMING TIME.

For a period of six months tuberous Begonias if properly watered and fed are profuse bloomers, then the tubers begin to get busy for another season and the top dies. In England, tuberous Begonias are considered, with the exception of zonale Geraniums, the best all round exotics for massing in beds and growing in borders. They can be grown ordinarily, in and out of doors. For pots, boxes, or baskets, nothing is better. Single varieties hold their blooms longest. They come readily from seeds, but two-year-old tubers are more satisfactory, from the fact that they bloom so much quicker.

SOIL FOR POTS.

A strictly light soil is usually recommended for all Begonias, whereas, we use a heavy one with splendid success.

All flower catalogues speak freely of "heavy and light soils," but they never tell you these soils are made, and made too, by formula. We had to learn this just as you may learn from us.

The formula for heavy soil is ⅔ds adobe with ⅓d sharp sand and leaf-mold in equal proportions. Leaf mold is the same as loam. Sharp sand is the sand that plasterers use.

Light soil is made of ½ leaf mold, the other half, sharp sand and barn manure used sparingly. Adobe not obtainable, any loose soil can be used with the addition of bone-meal or other commercial fertilizer. The dust under an old house, especially one built close to the ground, is heavily charged with a wonderful life giving power. Apply a good dressing of this to your plants and in a short time you will be astonished to see how they grow.

Liquid fertilizers applied understandingly are valuable and tone up a plant like tonics do the human family.

Royal Horticultural Society.

(ENGLAND).

The extract below is from a report of the August 12, 1919, meeting of the society as it appeared in *The Garden:*

GLADIOLI.

Messrs. Kelway arranged an extensive exhibit of these, though the spikes in the main were not of the high-class quality that we are accustomed to see. Varieties of the "Lang-prim" set were rather numerous, some of the more distinct being *Ghost*, soft yellow; *T. W. Sanders*, scarlet and yellow; *Wraith, Sylph* and *George Gordon. Primulinus Major* is a misleading name given to a golden yellow variety marked or blotched with rich crimson in the lower petals, in which latter particular it differs entirely from the typical species. Others apart from this set were *Barbara*, yellow and cream with crimson blotches: *Star of Langport, Lady Scott*, flesh; *J. W. Kelway*, crimson; *Lady M. Digby*, cream and pink, with great velvety crimson blotches internally, and *Sir E. Carson*, red and crimson fancy.

Major Churcher, Alverstoke, was awarded a silver Flora medal for a small, though particularly choice lot of these flowers. His *Primulinus Hybrids* impressed us by reason of their dainty grace and refinement, while retaining the true characteristics of the species from which they have descended. *Vega* was particularly pleasing, and in its greenish yellow color distinct. *Pruminella* is of lovely salmon tone; *Firefly*, glowing crimson scarlet; *Anamosa*, pale salmon, internally flaked crimson. *Midsummer Dream* has a velvety sheen over rich reddish scarlet. The finest of the set, however, was *Alice Tiplady*, of the deepest apricot and salmon, shaded internally with yellow. This is a lovely variety; we know nothing to equal it. *Negro*—not a Primulinus form—is of blackish velvet with purple shade; and *Senator Holland*, mauve and blue, has a purple blotch on each of the lower petals. It is handsome and distinct. Great freshness characterized the whole, while the colour distribution was very pleasing.

A large and varied assortment of these flowers was also sent from Messrs. J. J. Grulleman and Sons, Lisse, Holland, but, owing to the great heat, many had suffered during transit. Primulinus varieties were freely shown among Palms. In all probability we may see these in better form later, and, if again staged, we think a less free use of the variegated *Acer Negundo* might provide an improved effect.

Geo. Wolfrum, of Berlin, N. J., reports that on July 4th, 1919, with the assistance of Mrs. Wolfrum and his two young daughters, he cut before breakfast, which was served at 6:30 A. M., 2,500 spikes of Gladiolus *Pink Beauty.* This is not only a pretty good record for cutting as to quantity for the early part of the day, but it is also a good record for earliness in the season, and we imagine that for this reason Mr. Wolfrum must have struck a pretty good market for his first cuttings. The flower cutting season is a strenuous time and Mr. Wolfrum's record is only typical of what other growers have to contend with.

The Work of an Alabama Plant Wizard.

By T. Dabney Marshall.

[*Written expressly for The Flower Grower.*]

ATTRACTED by the unique advertisements of Mr. L. H. Read in THE FLOWER GROWER and his ever widening fame as a plant wizard and breeder, I determined to visit his nurseries near Deer Park, Ala. Although Deer Park is only about fifty miles North of Mobile and hardly a hundred feet above the level of the gulf of Mexico, I was amazed to find that its native flora was very similar to that of the North Carolina Mountains near Ashville and the Biltmore nursery.

When I arrived there, about the first of May, the last feathery flakes of the blooms of the Azalea Nudifolia were waving above the tender little leaves, showing where just a few weeks before the tides of green had broken into a foam of flowers. Here and there clumps of Kalmia Latifolia displayed great clusters of pink waxen blooms and almost justified J. Wilkinson Elliott's claim that it is the first of American ornamental shrubs. Wild bulbous orchids of the loveliest lavender shade; great patches of purple Phlox and clump after clump of the unique Sarracina made the little clearings in the pine woods and the railroad right-of-way a blaze of beauty.

I had vainly tried to grow such flowers at my home, which is at least two degrees North of Deer Park and I could not understand how they stood the intense heat which I knew must beat down on them in July and August. An examination of the soil explained the mystery. It was that same sand with a little mixture of clay that abounds in the North Carolina mountains. Thus was demonstrated that soil rather than temperature counts with certain plants.

We walked up the avenue leading from the railroad to Mr. Read's cottage between a glaucous hedge of Camphor trees, which are perfectly hardy there. On the one side of this hedge flamed out in long lines of beaten gold, Hemerocallis by the tens of thousands and on the other glowed the still more gorgeous colors of Amaryllis Vitata hybrids which Mr. Read had grown from the seed. The Amaryllis ranged in colors from almost white through shades of pink to intense crimson. They were as glorious in coloring as Darwin Tulips and greatly superior in size.

But it was Mr. Read's Daisies which attracted most attention. It is these also which make good his claim to being a Southern Luther Burbank. He has about the finest thing in the Daisy line that graces a garden. He originated it himself. It is a cross between the common wild daisy and the daisy maximus. He will shortly put it on the market under the fetching name of *Over the Top*. It deserves its cognomen. Though it was the first of May these splendid daisies were in full bloom in the open and the nursery was shipping them by the thousands to Mobile and other markets. It has the splendid large glistening flowers of the Maximus and the slender graceful stems and fern-like foliage of the field daisies. It is easily the finest daisy in existence. Larger than the famous *Shasta* or *King Edward VII.*, immaculate in the silvery whiteness of its petals and gorgeously golden in its sunlike center, it is a thing of beauty to the amateur and of profit to the professional florists who plant it in large quantities. I can conceive of no more effective decoration than a large basket of these blooms mingled with Asparagus *Plumosous*. But it is the earliness of its florescence which makes it most invaluable. It comes into bloom a full month before the *King Edward VII* and six or seven weeks before the *Shasta*.

More interesting to me personally were the Hemerocallis. I was familiar with daisies of all kinds, both human and floral, but I did not know the beauty of the Hemerocallis. I had grown the lovely Hemerocallis *flava* and I had grown and then thrown away the Hemerocallis *Fulva* and *Kwansoni* because of the dinginess of their color. But when I saw the clear sparkling gold of the *Dumortieri*, *Mindendorfi* and above all of Mr. Read's hybrids, obtained by careful crossing of the various varieties, it was a revelation to me and a delight. These hybrids were much taller and much earlier in flowering than their parents and were of almost every shape. Some were cup shaped, some like lilies flared open like saucers, some had twisted petals and the bizarre forms of those impossible blooms that Japanese artists love to depict and they were of every imaginable hue of yellow and as gaudy as the silken robes of a Mandarin on occasions of state. Any one desiring striking effects could do no better than to make large plantings of these brilliant flowers.

Mr. Read was also very proud of his Cyanus, commonly called Corn Flower Asters. These he found growing wild in the Deer Park swamps. He took them to his nursery, worked with them, hybridized them and gave them the intelligent care they needed and sold to Henry A. Dreer the original stock which that enterprising firm featured some years ago and put upon the market. The wild Cyanus is a lovely azure blue, but in the nursery there has been a break in the colors and now Mr. Read has them in all shades from almost pure white through purple to dark blue.

There were many other interesting plants and novelties but space does not admit of my mentioning all of them.

Excessive rainfall in places together with extreme heat rather early in the growing season, will doubtless result in weakening Gladiolus bulbs and other flower stocks to some extent. Conditions have been very favorable for the developing of rot of various kinds.

A Flowering Hedge.

Some twenty-five years ago I purchased a little 4 x 5 plate camera—think it cost me $6—but it has an excellent lens and sometimes when I see anything that pleases me, and it is not too far away, I take a picture of it.

Perhaps readers of THE FLOWER GROWER will be interested in the picture shown here, which was taken on account of the blooming hedge. I haven't taken time to hunt up the botanical name of the plant used, but it is that type of spirea commonly known as Bridal Wreath. It certainly presents a beautiful appearance, is cheap and easy to grow.

The best time for planting such a hedge is in the fall, but early spring before the plants begin to grow will do almost as well. A word of caution, however, to any who may be attracted by the picture. The hedge shown was planted too near the sidewalk and the next year after the picture was taken it drooped over the walk to such an extent that it had to be trimmed, which interfered with its blooming the next season.

One objection to a hedge like this is that it looks badly for two or three weeks after the blooms fade as the white blossoms wither and turn a rusty color. However, it is hard to find anything prettier than this spirea hedge when in bloom, and there are some drawbacks to almost anything we can grow.

HARMON W. MARSH.

Glads.

Gladioli is a misnomer,
Too technical and long.
They ought to be called by a syllable,
Undeniably potent and strong.

Pardon the amateur gardener,
Who in her place should belong,
For giving them the single name,
That in itself is a song.

Dear "Glads," my obeisances to you,
Your exquisite beauty and grace
Is a triumph of Divinity,
And dignifies each small space.

You are named for beautiful ladies,
With eyes like the summer nights,
And hearts like the mid-day's splendor;
That is one of a Glads delights.

So here is a toast to the Glad-flowers;
The message to me they brought,
Was a treat in God's great thought-world;
Inspiration can not be bought.

—*Ruth La Shorne Bundy.*

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"He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers."—ZOROASTER.

Determining Fair Prices for Gladioli.

In the July number of THE FLOWER GROWER, "P. M. T." starts a timely and interesting discussion of the subject of prices and asks several questions in regard to the proper method of making up a price list.

He thinks that difference in quality will not account for the big difference in catalog quotations. I think it will, but it does not follow that all low priced stock is poor and all high priced bulbs of extra quality. The low price may be a fair price and the other an exhorbitant price, or *vice versa*, it all depends on size and quality.

For several years large quantities of Holland bulbs have been sold often at very low prices, but were they really any cheaper than home grown bulbs at double the price? My experience has been that not over 50% or 60% of the large sizes grow, and about half of these bloom the first year.

Red Emperor at $5.00 per dozen are too high, he thinks. Very well, buy of the other fellow at $2.50, and if they prove to be imported bulbs he will soon realize that in this instance the low price is an exhorbitant price for imported *Red Emperor* sold last season at $50 per 1000, showing a profit to the retailer at $2.50 per dozen of four hundred per cent.

The *wholesale price* is in my opinion the true basis for estimating retail prices on all standard varieties and there is no good reason why a grower who has a large stock of one variety should sacrifice a part of his profit by selling at bargain prices.

The advice given our friend is correct. If a grower has a big surplus of bulbs which he cannot reasonably expect to sell at retail he should find a wholesale market and avoid quoting prices on standard varieties below the average fixed by reliable growers.

It would be very poor business to attempt to sell them in small quantities at wholesale rates because it would be very expensive as compared with the other method. The time required to answer letters, make a record of orders received, select the bulbs, pack and ship by mail or express, is a big item and to this must be added the cost of postage, paper, twine, boxes, etc. These "overhead" or sundry expenses are often overlooked by novices and sometimes by more experienced business men, but they must be carefully estimated before a retail price yielding a fair profit can be fixed. This overhead is often 15% to 25%, which simply means that when it is 20% and a sale is made at an advance of 25% on the cost there is no profit on the transaction.

When we attempt to find the fair wholesale price on which to base the retail or catalog price we discover at once that there is just as much difference in prices in one line of trade as in the other and for the same reasons, namely, the quality of the goods and the business ability of the owner. Let me suggest a method which I have found convenient and practical:

First make a list of the commercial varieties to be listed and rule off on the sheet five or six columns for prices. As the wholesale lists are received select four which are issued by reliable growers with whom you can do business and feel perfectly sure of honest and intelligent treatment. Write the firm name at the top of the first column and fill in prices quoted on any varieties which occur in both lists, repeating with the other selected lists. We now have opposite each variety one to four prices showing the rate at which these growers are willing to sell their stock, and it is an easy matter with these quotations as a guide to decide on a fair wholesale price for each variety and enter it in the last column.

Next make a complete list of varieties with three columns for prices per dozen, 100, 1000. These are to be the prices quoted to all except such dealers and growers as are entitled to a discount.

Add to the net wholesale prices as we have fixed them for commercial sorts the discount to be allowed on the retail price. If it is 20% add one-fourth, if 25% add one-third. Prices on new varieties limited in quantity must naturally correspond with the prices fixed by the growers who control the stock.

With the price per thousand fixed, excepting possibly a few small lots on which that rate is not necessary, it is easy to complete the list.

The price per hundred is usually about 10% more than the thousand rate, and the dozen price one-seventh the hundred rate with slight variations to make even change.

There will remain perhaps a few varieties which it is advisable to reduce or entirely close out, and on these bargain prices may be quoted or special offers and discounts made.

Clean, home-grown bulbs of all commercial varieties, properly graded and true to name, should have a fixed value, and the use of systematic methods in making price lists will help greatly to standardize our product.

S. E. SPENCER.

An Advertising "Efficiency" Suggestion.

Those who are growing Gladioli commercially on a comparatively small scale can save considerable in the way of printers' bills by using a full page in THE FLOWER GROWER, listing their varieties with prices and then having us furnish them with reprints of this page which can, of course, be done at a small cost as compared with having type set entirely new for a circular or catalogue. Get our rates on this.

This suggestion might prove as useful to some of the larger growers who issue complete catalogues and price lists, for any special announcements or the advertising of special varieties, etc. It makes no difference what line of flower stocks is being grown, the same general principles would apply.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

Time is Money in Gladiolus Digging.

IT HAD COME October's turn to be hostess to the year, and she was entering upon her duties with ardent enthusiasm. She had quietly observed the turbulent preparation of the early months as they opened their reservoirs of moisture for the fruitfulness of the seasons to come; the beautiful garlanded promises of June and her sister months, and their fulfillment in the summer and early autumn. She acknowledged that they had done well, but they had not given all, there was much left for her to present. The corn would be freed from the shock and laid in yellow heaps; the last picking of apples gathered into rosy piles ready to be carried quickly into their winter storage. Then there were the ripened nuts, October's very own; and the great crop of wonderful Gladiolus bulbs, most of which would be taken from the ground during her supremacy. She would also give a beauty unthought of by the other months and smilingly she kissed the forests into crimson and gold, deepened the scarlets and purples of the berried vines, loosened the leaves to be in readiness for the gusty winds of her later days.

In the midst of all this transition, the little woman of the woods was slowly gathering in her harvest of bulbs. She had been so interested in them and so eager for them to attain the greatest size possible that she had left them in the ground and kept them well cultivated until after frosts had come and the foliage had changed to brown. She was sure that the large ones had completed their growth and hoping that the small ones might gain still a little more, she left them until the last. She dug the large ones with a fork, taking them out carefully and laying them in piles and after finishing a row, would go back, cut the tops off with a knife, and drop them into baskets. That done, she commenced with the bulblet grown, or planting stock, loosening it with a fork as she had the large bulbs, but the ripened tops of the planting stock broke away from the little bulbs like dead grass and although well loosened in the soil it was impossible to get them only by picking them out with her fingers. They were well ripened and ranged in size from diameter of $\frac{1}{8}$ inch to 1 inch with an occasional larger one. Day after day she spent long tiresome hours down on her knees picking out the bulbs. There were heavy dews which drabbled her skirts and covered her shoes with damp and often wet earth, but if she waited until the sun dried the dew away, it shortened her time for work. She was getting worn and tired but still worked desperately. She thought of the work of rooting that Louise had hinted about, and tried a few of the large bulbs which were so tough and hard to separate from the old bulb root that it alarmed her. She was afraid she could not do it and if she could—she thought wearily—where would or could she sell them and would it pay. O, it must pay, for her money, all her savings, were in them. She must have it or—her morbid shiver of apprehension was accompanied by a whistling gust of wind which brought down golden showers of leaves that settled lightly on and around her. In nervous despondency she wondered if she were unable to return to the house if the leaves should cover her over, and the wind seemed to whistle dismally, c-o-v-e-r h-e-r o-v-e-r. There was a change in the weather, it was getting colder fast and occasional snowflakes were in the air. With fingers numb and sore and worn almost to exhaustion, she returned to the house and sank wearily on the bed.

She was awakened by the glare of sunshine which showered with splendor her tiny room and its homely belongings, but the keen sharpness of the air brought recollection of the evening before and as she arose and saw her little world blanketed with sparkling snow she knew it had not been a horrible nightmare, but the plain bare truth, and her lips quivered when her eyes rested on the roundish mounds of snow that covered the bulbs. Probably they were frozen now, she thought.

"Hoo—hoo, hoo—hoo anyone at home here?" It was Louise's voice, strong and clear.

"Yes, I'm here," answered the little woman, quaveringly. "How did you get in?"

"Well, since the door was wide open, I took it as an invitation and walked right in," replied Louise, then seeing her, "Why, what is the trouble, you are all in a tremble?"

That opened the floodgates and the little woman sobbed out her troubles on Louise's shoulder.

"There, there, don't worry about the bulbs. They are only having their faces washed; they are all right. I came over to bring you an order for nearly all you have," suddenly resolving to buy those bulbs herself if it took every cent of her winter allowance. "I'm hungry, aren't you going to invite me to eat breakfast with you?" looking smilingly at the clock which was striking ten. A good breakfast and cheerful company worked wonders, and soon the little woman was herself again.

"I meant to come earlier and get you started right," said Louise, "but there were so many things to prevent. You have a grand crop of perfectly beautiful bulbs, but you made yourself much extra trouble and expense in harvesting them. You see," she added earnestly, "it doesn't matter so very much whether the planting stock is so well ripened. It will start into growth next year just as quickly and grow just as well as it would from the fully ripened brown bulbs that you have here. Of course you could not do that with some things, but it works all right with Gladiolus bulbs. The best time to dig them is when they have made a good growth, but are still green enough so that the bulbs will hang to the grasslike tops. You see, its like this," and in pantomine she grasped a large bunch of imaginary tops, slipped her right hand into the loosened soil underneath the bulbs, lifted them gently, gave a little shake to get the loose dirt off, then with her right hand broke off the entire bunch of bulbs with one little quick twist. "Its fun to dig them this way and can be done in less than half the time it takes when they are ripe and have to be picked out. If any should break off, pick them up, but do not bother with all those tiny bulblets unless the variety is very valuable. You could not have hired those dug the way you did for less than a large sum of money, but any one could dig them green for much less. Its one of those glaring instances where *time is money*. On the other hand, time is money when the large bulbs are left in the ground as long as they are making growth, and without risk of severe freezing, unless required for early fall shipment. The blooming bulbs do not put on size very much until the flowers are gone. Then, with good cultivation, they will grow very fast, and as they are sold according to their diameter, sometimes even a few days more will add a growth of a quarter of an inch to the diameter and thus change it from a No. 2 to a No. 1 size, thus adding a commercial value of from $2.00 to $5.00, and sometimes more than that on a 1000 lot. So you see that in Gladiolus digging, time is money when the planting stock is dug early and again when the large ones are dug late."

Louise paused, then looking at the drabbled dress, she said: "Dresses are out of fashion for such Farmerettes as you and I. See the khaki suits," opening her bag, "with stitched patches on the elbows and knees," and laughing at the amazed expression, "they will be becoming to you I am sure," and looking out through the door, "I don't see how you can work amidst all this paradise of color. This bit of snow will soon be gone and we'll have a lovely Indian summer, long enough to finish these few bulbs; so put on high shoes with your suit and we will have a run through these glorious woods." The little woman hung her head. She had been seeing only the morbid slough of life, and she now realized that cultural information sought from experienced growers or through floral magazines would have brought her the joys of success. The tall trees looking on sighed in happy thankfulness as they sent their leaves softly and silently to the ground.

MRS. A. H. AUSTIN.

WAYSIDE RAMBLINGS

MIXING THE VARIETIES.

Last year a party of us motored up to Mr. Kunderd's place at Goshen and that gentleman spent about three hours of his valuable time escorting us through his extensive Gladiolus fields. Two or three times he nearly broke the ladies' hearts by pulling up a plant by the roots. They couldn't understand why the sacrifice, but his keen eye had discovered a variety where it didn't belong and he took the shortest and quickest way to get rid of it.

We little growers can't screw up our courage to the point of pulling up a plant. We have a few mixtures in our rows and as fast as they show up we tag the stragglers and will separate them at digging time, but we just can't bear to destroy a corm, even if it is out of place.

Great care to avoid mixing has been practiced in our patch, but, unfortunately, we have to use the same ground each year; some of the corms are bound to be missed in digging, and if they come up in one of the new rows, they can only be found at blooming time.

Of course, the greatest danger of mixing that confronts the big grower is in the carelessness of his help. The wife of a local grower (for the flower market) bragged to us the other day that her husband never needed to label his varieties as he could tell the corms apart by their appearance. It is my personal opinion that the man who can do that, with any number of varieties to speak of, is wasting his time growing Gladioli. "They ain't no sich animile." At first I was able to distinguish some of my varieties by the colors of the corms, but now that I have some seventy varieties, I think there are many duplicates in colors of corms.

We are just raising Glads for the fun of it (though we sell a few blooms) and take special pains to keep the varieties separate. The old man digs them all himself, cuts the tops off short and washes the corms in a riddle. The corms are put in a box with a label, left out of doors until they quit dripping and are then taken to the attic. At the end of two or three weeks they are ready to be cleaned up and stored for the winter. Each variety is worked separately and a record made of the crop by sizes. When spring comes it is comparatively easy to plan to plant the crop so as to get the desired effects. From the time they are dug the tag stays with the lot and is finally attached to the receptacle which holds it all winter .

Last year (with about 50 varieties) we lost 55 *Canary Birds* which we feared had been mixed with the *Mrs. Francis Kings*. We really had more *Kings* than we wanted, but didn't dare part with any of them as we didn't want to lose the *Canary Bird* stock. The only thing was to plant them. It developed that the *Canary Bird* corms were all in one package, but labeled wrong.

When the corms go to our attic they are dumped out of the boxes and spread on papers on the floor and the attic is taboo for the children until the Glad crop is out of the way. When the fall evenings grow long and there is a nip of frost in the air, we put in many a pleasant hour cleaning up, labeling and storing away the Glad corms, while we dream and plan for the next summer.

HARMON W. MARSH.

MY EXPERIENCE WITH LATE PLANTING OF GLADIOLUS CORMS.

Owing to a prolonged cold and rainy spell of weather during the spring of 1919 my Gladioli were not planted till late. As a consequence a great number of the corms had sprouted, some showing sprouts two or more inches long. Many of these sprouts were pressed flat to the corm. After planting and trying to allow for the unnatural position of the sprouts by planting the corms on side, I hoped that sprouts would come up. Needless to say, in a great number of cases they did not do so. In fact I found it necessary to remove the soil above the corm, uncurl the sprout and hold it in position while restoring the soil. At this time I found some of the sprouts curled and balled, some even rotting and some appeared to be growing downward. Where the sprouts were rotting, the rot had taken hold of the corm.

It does not necessarily follow that these conditions hold in case of late planting every spring. I believe that our spring this year was very unnatural. Too much rain and too cool at the start and then suddenly very hot. I believe it was this that caused such long sprouts to appear on my corms. In any event I believe it is to the advantage of the corm as well as the grower to get his planting done as early as possible.

CHAS. E. F. GERSDORFF.
(District Columbia.)

SPORTING OF WILBRINCK.

I am enclosing a petal of a single bloom of the variety Gladiolus *Wilbrinck*, supposed to be a "sport" of *Halley*, which it resembles in every way except in color of bloom, which is the color of *America*.

As you will note the petal I am enclosing is a "color sport", just a single blotch of the color of *Halley*, it would seem to indicate that the color of *Wilbrinck* is not wholly stable.

Would like to know if any of the readers of THE FLOWER GROWER have had similar experience with this variety. This single bloom is the only variation of color I have noted in this variety.

FRED C. HORNBERGER.

DIVIDING AND PEELING GLADIOLUS CORMS BEFORE PLANTING.

I see by the September issue of THE FLOWER GROWER that "F. B. C." (Mass.), has read the article on "Dividing Corms Before Planting," on page 78, August number, of THE FLOWER GROWER, and will use his pocket knife on such corms that perhaps do not multiply satisfactorily hereafter. But I hope he won't make the mistake that I did this year and cut his corms up before he is ready to plant them just because he has an idle spell. My experience in this matter cost me one of Stalnaker's "Carnival of Colors" collections and also one of his "Blue Collections."

At the time I divided them I intended to plant them the next day but a heavy rain intervened and it was nearly two weeks before the ground got in workable condition. About a week after I had cut them up, I poured them out of their paper sacks and found them moulding, so I scattered them out on the floor and in a few days I found them drying nicely, in fact they were so nicely dried that I was tempted to throw them away and that is just what I should have done. About one-half of them came up but began to die by the time they were two weeks old. I got seven blooms out of the two collections and may dig twenty small corms that may bloom next year.

Last year I lost a lot of perfectly fine cormlets by peeling them before I was ready to plant them. They went the rotten route.

I also ruined about 200 of my largest corms that I had selected on account of their size and dormant condition to plant about July first for late bloomers by peeling off the rough shuck—wanted to have them ready to plant, you see. When planting time finally came around I found those elegant corms so dried and shrunken that only a few of them grew at all. Evidently nature put that heavy shuck on just to keep them from drying out during their dormant period.

Why don't some of the big growers tell us little fellows and new beginners, through THE FLOWER GROWER, some of their failures so we can steer our boat accordingly?

Peel your corms and put the knife to them, brother "B. F. C," but don't do it until you are ready to put them in the ground. T. B. TIPPETT.

SIBERIAN IRIS.

The Siberian Iris should be more widely planted. As a plant it is ornamental, hardy, rapid in growth and increase, easily established, profuse in bloom. As a cut flower its strong stems, aristocratic bearing and decorative style make it ideal. In color its blues and purples are equaled by no other cut flower but the violet. Its cut blooms can stand in water all day outdoors in blazing sun and scorching wind without wilting, this making them especially useful for cemetery decoration. Blooming season is with the Peony, following the German Iris.

B. C. AUTEN.

STORING GLADIOLUS CORMLETS.

I had four quarts of choice Gladiolus cormlets last fall and mixed them with damp soil, put them in a small box, and buried them outdoors below the frost line. This spring I dug up the box to see how they wintered and found them in perfect condition and that each cormlet had sprouted. In the keeping of cormlets over winter I know of no better method than to bury them.

W. G. BRAINARD.

In high northern latitudes one cannot be sure just where the frost line is, and, therefore, storing corms buried in the ground might in a severe winter prove disastrous. —[ED.

I'd rather raise Gladioli than be a King,
For a Monarch is a troubled thing.
He loses his throne on rebellion's tide
When traitors along with his soldiers ride
And he never knows when the slip of a knife
May end his troubles along with his life.
Oh, a Monarch's life is a terrible thing,
So I'd rather raise Gladioli than be a King.
—(*Subscriber.*)

Rubus Odoratus, or Thimble Berry, of Northern Wisconsin. The luxuriant foliage and showy blossoms of the Thimble Berry are attractive and real, but the fruit is deceptive, a thin layer of pulp barely concealing an enormous receptacle. Its natural habitat is a shaded wood and it will probably never come into cultivation although it has some value as an ornamental plant.

Pruning Rose La France.

This sweet-scented old favorite is rarely pruned in amateurs' gardens as it should be with a view to the production on each plant of as many blooms as possible. Personally, I have never seen plants quite satisfactory that were severely pruned or lightly cut back. A medium course seemed to be the best in my case. I tried such pruning after reading the experience of a lover of this Rose who had several plants growing singly in very small beds in different parts of his lawn. He had tried hard pruning without success, so he decided to thin out weakly branches and to shorten the remaining shoots, some being cut back to one-third and the weaker ones to two-thirds of their length. In the course of a few years, after such annual pruning, the bushes measured about 4 feet high and 3 feet through, forming splendid specimens on the lawn. They flowered profusely. Every spring a good mulch of rotted manure was put on and covered with a thin layer of good fibrous loam.—G. G.—*The Garden.*

Registration of Novelties.

At the Horticultural Congress held in Paris at the beginning of June, one of the principal questions discussed was that of the registration of novelties and the protection of the rights of the raisers. To many, the problem seems insoluble, and there appears no means of securing the rights of a producer in a plant, in the same way as they are secured to the producer of a work of art or literature. The Congress recalled what had already been attempted, namely, the registration of novelties in a list, national or international, with the description of the plant, and the issue of a certificate to the raiser, and thought the matter might well be studied by a special commission. The demand was formulated that the names of the plants submitted for award should in every case be followed by the name of the raiser or introducer. On the proposition of Monsieur Rivoire, of Lyons, the Congress resolved that a national bureau for the study of novelties should be created, with a sufficiency of funds for the purpose.—*The Gardeners' Chronicle*, London.

Mr. Spencer's very practical suggestions on page 98 for determining the selling price for Gladioli would, we believe, apply equally as well to other stocks in the floral line, and, therefore, those new to the business whether growing Gladioli or some other flower as a specialty, would do well to consider the suggestions made, very carefully, as applied to their particular line of business.

THE PEONY

The Peony and its People—From Amateur to Professional.*

WHEN, IN 1897, I came to Wyomissing, where I could have a real garden, one of the first things I determined was to have a complete collection of Peonies, "a white one, a red one and a pink one." Then I discovered that Ellwanger & Barry had a great collection, as many as twenty kinds. After I had gotten these, one of Lemoine's catalogues fell into my hands and, after some hesitation over the extravagance, I made the plunge. I sent to him my first foreign order in 1901. Only then did I realize what was before me, but it was too late. The Peony bug had gotten me, as it has gotten many others, and will get you, too, if it once gets fairly hold of you. Orders from Dessert and others soon followed. Then from Kelway in England.

There must have been a sort of Peony epidemic prevalent at that time, for I learned afterwards that a number of those who today are well known in the Peony world were similarly affected at about the same time in the same manner, the two Petersons, Shaylor, McKissock, Ward, John Good, Betscher and others. In the Thurlow ranks, where it had partly subsided (Mr. Thurlow having recently sold his collection), there was a fresh outbreak of the craze. I was not then in touch with these people, but I had heard of a Peony Society. I packed my grip and started to Boston to see the Peony show and learn something about Peonies.

Ever since then Boston has seemed to me the "Hub" in Peony matters, as it used to be for me in things musical, for here in this hall I got my first real inspiration. I stopped off at Cottage Gardens to see Mr. Ward, then president of the Peony Society. He was busy collecting flowers for the show, noting new things coming into bloom for the first time, identifying things untrue, etc., and trying his best to be polite to me, all at once. In the light of later experience, I can appreciate his position, but neither he nor I suspected then that I was to be his successor.

AMERICA'S LEADERS.

Mr. Shaylor carried off the honors at that first show I attended, in 1906, as he has done so many times since, with his splendid collection. Mr. McKissock was there with his fine collection of novelties from France. Of course the Thurlows were represented there, and in the center of the room stood a massive great vase of Richardson's *Rubra Superba,* which carried off the first prize. Here I first met the late Rev. C. S. Harrison, "Evangelist of the Peony," for he, more than anyone else, has preached the gospel of the Peony throughout the great northwest. Here I met our Mr. Fewkes, whom all of us of the Peony Society have come to hold in such sincere regard. I visited T. C. Thurlow, the first of the great Peony enthusiasts in New England, at his delightful and hospitable home. I visited James McKissock, and his beautiful collection at West Newton.

Up at Wellesley Hills I found Mr. Shaylor among his Peonies. In one corner, carefully screened under a tent from the hot sun, we came to the climax of our visit, when he said to us, "There, gentlemen, is the celebrated *Lady Alexandra Duff.*" He was doomed to disappointment, for it turned out at the show to be identical with *Grandiflora Nivea Plena.* Others had had similar disappointments, for *Lady Duff* turned out to be first *James Kelway,* then *Mrs. Gwyn Lewis,* and a host of other things, even to *Festiva Maxima,* till Mr. Shaylor, in disgust, pronounced the Lady a myth, using a famous quotation, "There ain't no such thing."

I met many others there, whom for lack of time I cannot mention, but I formed friendships with them that have endured to this day. Some of them have passed away, but the greatest thing I learned was that Peony people as a class are mighty fine people. They are true blue. For they grow Peonies, not as a commercial proposition, but because they really love the flower, and find in it a fascination that cannot be resisted.

A FEW WORDS OF HISTORY.

The Peony is a true aristocrat of the hardy garden. I do not apply this as a mere phrase, for it is true in every sense, both as to its lineage and its associations. In China it is said that the tree Peony has been their chief pride and glory for nearly 1,500 years. This Asiatic Peony must not be confused with the old-fashioned, early-flowering red Peony of our grandmothers' gardens, which belongs to an entirely distinct species, officinalis, a native of Europe, the early history of which is intricately woven with a haze of superstition, allegory and myth. Its magical charms were supposed to ward off witchcraft, and the name Peony is derived from a Dr. Peon, who used its roots as medicine.

The modern Chinensis Peony has only been known in Europe a little more than half a century. It was under the care of M. Jacques, gardener to King Louis Philippe, that one of the first collections was formed, and some of the first of the fine varieties of today originated. M. Jacques' collection was inherited by his nephew, M. Victor Verdier, who raised a number of fine seedlings. The collection of the Comte de Cussy, an amateur collector, was inherited by M. Calot, of Douai, who continued to raise seedlings till 1872, when his collection passed into the hands of M. Crousse, of Nancy, who made careful selections from the Calot seedlings and sent them out annually until 1879. From 1882 until 1899, Crousse sent out seedlings of his own raising. The Calot-Crousse varieties are noted for their uniform high quality, raising the standard of excellence to a height that has never been surpassed, unless it be by the splendid varieties introduced in recent years by that greatest of all the world's hybridizers, Victor Lemoine, whose establishment at Nancy is at Crousse's old place. All the Lemoine varieties are exquisitely beautiful, but most of them so rare they are but little known outside of the larger collections.

Another famous French collector of Peonies, contemporary with Calot and Crousse, was M. Mechin, also an enthusiastic amateur, whose grandson, M. A. Dessert, of Chenonceaux, succeeds him, and is considered today the greatest living authority on Peonies. Among his most recent introductions may be found some of the most beautiful additions to the many fine varieties for which we are indebted to the French specialists. Recently a number of fine new varieties, which are yet but little known in this country, have been originated in France by Riviere, Paillet, Brochet and others. To these must be added the beautiful varieties raised by James Kelway, of England, who began his work on the Peony in 1864, and twenty years later catalogued forty-one new varieties of his own raising.

OTHER AMERICANS.

Among those who have been most prominent in the introductions of new Peonies in America which equal those of the finest French introductions, was John Richardson, of Dorchester, Mass. His varieties are all of unusual merit. *Milton Hill* and *Paul Fisher* are among the best; *Walter Faxon* stands alone unapproached by any other Peony in its color, the nearest true deep pink; while *Rubra Superba,* crimson, and *Grandiflora,* soft shell-pink, still stand at the head, as the best and very latest of these colors to bloom. H. A. Terry, of Crescent, Iowa, early became interested in Peonies, and produced many varieties, the best probably being *Grover Cleveland, Etta, Emma, Princess Ellen, Euphemia* and *Stephanie.*

It was in Boston, in 1906, that I first met Mr. Hollis and saw his beautiful blooms on exhibition. I thought them fine then, and in my garden since they have not disappointed me. He was a genial, kindly gentleman, with means and leisure to devote his time to his favorites. I visited him in 1910 when his Peonies were in bloom. Although stricken then with a fatal illness, unable to walk alone, he sat in the little summer house overlooking his Peonies, happy in the sight of them, still able to talk with enthusiasm about his treasures and call them by name. Among his many fine ones are *Paradise, Welcome Guest, Maude L. Richardson, Standard Bearer, George Washington, Bunker Hill* and *Tragedie.* Mention must also be made of his Japanese types, of which he raised a number which are distinct and fine.

WESTERN WORKS.

Mrs. Sarah A. Pleas, now living in Whittier, Cal., at the advanced age of over 83 years, is as actively interested in Peonies as when at her home in Spiceland, Ind., she raised and introduced *Opal, Elwood Pleas* and her now famous *Jubilee,* which carried off highest honors at the National Peony Show in Philadelphia in 1917. A. M. Brand, of Faribault, Minn., for many years has been giving his attention to the raising of seedling Peonies. His varieties are now attracting a great deal of attention; his *Martha Bullock,* best known, was one of the prominent features in the show in 1917. Among his many new ones I would mention *Mary Brand, Richard Carvel* and *Frances Willard.* E. J. Shaylor, of Wellesley Hills, is devoting his later years to raising new varieties, and has already given us *Georgiana Shaylor, Mary Woodbury Shaylor, Wilton Lockwood* and a number of others which have received certificates of merit. We must not forget to mention *Cherry Hill,* by Thurlow, of West Newbury, and *Karl Rosenfield,* by Rosenfield, of Omaha, Neb., as being two American varieties of exceptional merit. Some of you may remember the splendid exhibit of some fifty new unnamed seedlings made here in 1916 by Prof. A. P. Saunders, of Clinton, N. Y. You will want to keep an eye on his work, for possibly one of these days the long sought yellow Peony may appear in his garden, for he is after it, apparently on the right track, and I shouldn't wonder if he succeeds.

AN ENTHUSIAST'S PASTIME.

It will be seen, therefore, that nearly all of our modern Peonies are of comparatively recent introduction, and I am greatly impressed by the fact that practically all of the fine Peonies we have today have come to us through that remarkable group in France, Calot, Crousse, Lemoine and Dessert, most of them having a family relationship, and the few enthusiasts in America, just mentioned, who have taken up the growing of Peonies because they found it intensely fascinating; for the Peony does not attract the commercial grower. In its propagation there is no easy, royal road to quick results. It takes from four to six years before blooms may be had from seed, and if, perchance, one seedling in a thousand has sufficient merit and distinction to justify its introduction as a new variety, it takes many more years to raise, by the slow process of division, sufficient stock to be able to offer it to the trade. That is why the new varieties are so expensive; unlike a new Rose or carnation, which in a few months can be increased to an unlimited supply through cuttings. It takes years to acquire a few plants from a Peony, and even today some of the old varieties are still scarce.

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*An extract from an address by Bertand H. Farr, of Wyomissing, Pa., ex-president of the American Peony Society, delivered before the Massachusetts Horticultural Society.

The professional grower cannot afford to wait so long for results. So most of the work with the Peony has been done by those whose love for the flowers themselves, and the fascination of watching them grow, has been their chief incentive. Here is an example of your real Peony lover: Two or three years ago I visited your Mr. Fewkes, whom all us Peony people have come to regard in such high esteem. After we had enjoyed the Peonies in his garden we went inside, where in a vase he had three of the most wonderful blooms I have ever seen. They were Lemoine's *La Lorraine* and Dessert's *Thérese* and *Rosa Bonheur*. As we stood admiring them he remarked, "Do you know? it almost seems to me as if it is worth a year of a man's lifetime, just to be permitted to look upon a thing so beautiful!" Truly the Peony is an aristocrat.

Single Peonies.

People come to my patch, see a string of single Peonies down the row, "How perfectly lovely!" run to examine, return with long and disgusted faces. "They're not pretty at all; they're only single." It seems to be contrary to the rules, especially with country people, to admit that a single flower can be pretty, but, you take my word for it, their first impression was the correct one. The single Peonies have dainty colors and are as large as the doubles, with vastly more grace. They stand up, they nod to the breeze, and their petals wave jauntily as those of the stupid doubles cannot. They do not pound themselves in the mud in a storm, nor drag the plant down out of shape. For decorating they are just as effective and better adapted.

The doubles have their good points, though.

B. C. Auten.

Fragrance in Wild Flowers.

A new angle in the fragrant wild flower situation has been developed by a note from Dr. A. F. Blakeslee in *Science*. He found two forms of garden verbena, one of which was fragrant to him and one of which was not. Happening to call the attention of an assistant to the flowers, the latter reported the odorless one fragrant and the fragant one without odor, so far as he was concerned. This led to further experiment with the result that out of a considerable number of people tested, some found one form fragrant and some the other. The subjects were tested blindfolded so that no color suggestion vitiated the results. If this condition is found to exist with regard to other flowers, we may have to have new tests to decide which flowers are fragrant and which are not. We have repeatedly suggested that all flowers may be fragrant to the insects that visit them and here, at least, we have evidence that even fragrant flowers may be odorless to noses that can distinguish fragrance in other forms. It is likely that those who can smell at all would not disagree in the case of such strongly scented flowers as pink azalea, wild crab, wild grape and arbutus, but in flowers reputed to be only faintly fragrant, the question now arises, are they fragrant, or is our own nose at fault?—*American Botanist.*

Cultural Hints on Hyacinths.

By Bertha Berbert Hammond.

[*Written expressly for The Flower Grower.*]

In reply to the queries in the June and July issues of the The Flower Grower, I venture to state that if one is possessed of a great fund of patience, Hyacinth bulbs of blooming size may be grown from seed. The Hyacinth seed, like that of the Peony, should be sown immediately after it has matured. In cold latitudes some protection should be given to the seed-bed during the severest weather, but this mulch should be removed early in the spring. To raise Hyacinth bulbs from seed is a very slow method of propagation as it requires from four to five years for the resulting bulblets to mature, and as blooming sized bulbs are quite inexpensive, excepting as an interesting pastime, it is scarcely worth while for the average amateur to attempt the experiment.

If Hyacinths of varying colors are grown together, the seeds from such plants may not come true, due to the cross-fertilization brought about by visiting insects or other causes. Expert Hyacinth growers usually obtain their bulblets for propagation by a method of skillfully cutting crosswise, especially selected bulbs. When these cut bulbs are treated in the heated, glass-covered propagating house, clusters of bulblets form along the incisions. When of proper size, these bulblets are removed from the parent bulb and planted out until they become blooming size bulbs. They are then harvested and dried off as salable bulbs.

When grown in a well-drained, sunny bed under the most favorable conditions, it is advisable to leave Hyacinth bulbs undisturbed in a permanent bed, until (because they are devoting their energy to the reproduction of bulblets) they become non-blooming. The new bulblets may then be reset. If Hyacinths are planted in a shady, moist situation, in poorly drained, tenacious soil, the bulbs if left in the ground are liable to decay, particularly after a wet season.

In sections where the climate in the late fall is fairly mild, Hyacinths may be started into growth too early, pushing forth their flower buds that may be later injured by a cold wave. In localities where such conditions are apt to prevail, it is safer to lift and dry off the bulbs as soon as they have ripened and store them in paper bags in a cool, well ventilated place, bedding them out late in the following autumn. On account of mild weather conditions, it is rather difficult to succeed with Hyacinths in the far south.

In New York State, Hyacinths may be planted any time from late October until the end of December. If by any chance your shipment of bulbs arrives after the ground is frozen but before the new year, they may still be successfully planted on top of the frozen ground, if you are fortunate enough to have in reserve some unfrozen ground or can obtain some manageable soil from some sunny hillside. I keep in the cellar some earth for just such an emergency. Place the bulbs in position on top of the soil, cover very firmly with about three or four inches of earth and add a generous top layer of stable litter which will not only protect these bulbs from the effects of alternate freezing and thawing, but will assist in creating the conditions conducive to the making of good root growth. This litter unless very coarse need not necessarily be removed in the spring.

Naturally, such late planted bulbs will not bloom as early as those planted previously, but they will bear as good flower spikes and extend the season of blooming.

Flowers for the Sick.

A wounded soldier, whose leg was in a cast, suspended higher than his head, asked an acquaintance who visited him for a red Rose and when it was delivered he requested that it be put in a slender glass vase and strapped to his leg that he might see the flower all the time.

It has been brought out during the war that flowers in the sick wards lower the patient's temperature, smooth out the creases between the eyes and hasten recovery.

To all wounded soldiers flowers have a deep significance. The expressions on the faces of the wounded soldiers when they receive a Carnation or a Rose are such that their emotion cannot be put into words.

Sending flowers to the sick is not merely sentiment, but a very practical expression of love and respect and also a very practical way of helping the sick one recover.

The Oleander.

Among the many classes of plants whose merits are totally overlooked at the present day must be included the Oleander, of which there are several varieties in cultivation, but, except occasionally in some old-fashioned garden, none of them are ever met with; and though to a limited extent kept in stock by a few of our nurserymen, there is really no demand whatever for them. Notwithstanding this, the Oleander is a really beautiful shrub, that will flower year after year with but little attention. Grown in pots or tubs, it may be wintered in the greenhouse or conservatory, and during the summer can be placed out of doors in a sunny spot. Such conditions are favorable to the production of blossoms, which expand about July, the plant then being particularly attractive. When in flower they may be allowed to remain out of doors or removed to the conservatory if they are needed at that period. A loose, opengrowing shrub it naturally is and any attempt to alter its character in this respect will only end in failure. If a specimen is cut back, at least one year's crop of blossom will be sacrificed. The cultural requirements of the Oleader are in no way exacting, for cuttings strike root very readily either in soil, sand or water if they are kept close for a little while, and they grow away freely in any ordinary potting compost. In commencing with young plants the tendency to run up tall and naked should be particularly borne in mind, and to obviate this they must be freely stopped during their earlier stages, as in this way the foundation of an effective specimen is laid.—*Gardening Illustrated.*

American Gladiolus Society.

Annual Exhibition at Detroit, Aug. 19th to 21st.

SINCE our good friend, Frank S. Morton, passed to his great reward, we have been unable to induce any of our friends to attempt to cover a description and give their impressions of the annual flower show of the American Gladiolus Society. We suppose that our readers expect something along this line from the editor, and we will do the best we can to give our impressions of the Detroit show.

It should be noted in our September issue a full report of the annual meeting together with President's and Secretary's reports was given, and also a complete list of winners and winning varieties in the Open to All Classes. We are not able to give a list of winning varieties in the Non-Commercial Classes which are reported in this issue as we did not have the time to go over the entire exhibit.

The first and foremost impression of the Detroit show was one of hard work. If any of our Gladiolus friends have any doubt on this subject, let them ship 1400 spikes of Gladioli, aggregating over one hundred varieties and stage them in 66 classes. The editor did this with the assistance of his youngest son. How then can the impressions of the editor be very valuable in connection with the Detroit show when hard work was the chief feature of his experience?

The show was held in connection with the Society of American Florists and Ornamental Horticulturists, and as Detroit is overcrowded everywhere, they were obliged to be satisfied with the Arcadia Auditorium as their annual meeting place. The S. A. F. & O. H. gave the gallery on both sides of the hall to the American Gladiolus Society for the staging of bloom in connection with their annual flower show. This gallery was not only inadequate in size, but miserably lighted, and the arrangements of tables inconvenient. We might here suggest that Detroit as a convention town is a thing of the past so far as we are concerned. Years ago Detroit was one of the best convention towns of the United States, but it is one of the worst now because of the terrible congestion and overcrowding resulting from pressure of a metropolitan business in a comparatively small city.

Before the show we were under the impression that Detroit would be one of the best possible places for a flower show, but the attendance, aside from our friends the florists from all over the United States attending the S. A. F. & O. H. meeting, was small. There are doubtless hundreds of flower lovers in the city of Detroit and vicinity to whom the Gladiolus show would have been a feast, but they were not in evidence, whether the fault was in not properly advertising the floral display or because people during the month of August are at summer resorts, or because they are too busy making money in the automobile business or otherwise, we do not know. But the attendance of flower growing enthusiasts aside from the professional florists was not what it should have been. We have always thought that the American Gladiolus Society's shows were never adequately advertised by local newspapers. We suppose they expect that such shows should be advertised only in a paid for way and not as a matter of news.

The display of Gladiolus bloom at the Detroit show was excellent everything considered, and while not as great in quantity as some of the former shows of the Society, yet the quality of bloom was good and the representations of high class varieties the very best probably that had ever been collected together in one show. Bad weather conditions in the middle west prevented many growers from sending bloom to the show.

The display of new varieties and seedlings was especially a prominent feature of the show and the Joe Coleman seedlings especially were worthy of mention. He won not only the American Gladiolus Society medal for best seedling Gladiolus, but also with his own seedlings won first prize in the regular classes for best twelve varieties, three spikes each; and in the class for best twelve varieties, one spike each. Such a thing has not been accomplished before so far as we are aware. "Joe" certainly has some fine seedlings which will doubtless be heard from later.

H. E. Meader came all the way from Dover, N. H., and won a number of prizes and Honorable Mention. It surely shows good sportsmanship when a man carries bloom eight hundred miles or more to a flower show. His display of *Lilywhite* was awarded Honorable Mention.

B. Hammond Tracy won the Mrs. Francis King prize for the best and most artistically arranged basket of fifty spikes of Gladioli, and also the Betscher prize for finest basket of *Primulinus Hybrids.*

The United Bulb Co., Mount Clemens, Mich., had a fine display of the Vos named varieties and these were well displayed in a prominent section of the exhibit. They were in charge of Th. deGroot and P. Vos. They won the big prize in Class 1, best twenty varieties three spikes each.

The big prize of the show, the Burpee Cup, was won by the National Bulb Farms, Inc., Benton Harbor, Mich., for the largest and best display. They showed a large number of the best new varieties and novelties.

The Grullemans Co. display of *Primulinus Hybrid* named varieties was one of the features of the show, and they were awarded Honorable Mention for it.

J. F. Munsell, Ashtabula, Ohio, secured Honorable Mention on his white seedling No. 1. Mr. Munsell's seedling, *Ashtabula,* was a prominent feature of his display. *Ashtabula* is certainly a fine thing.

Mrs. Austin brought with her a vase of *Evelyn Kirtland* which was awarded Honorable Mention.

Jelle Roos, Milton, Mass., had a beautiful display of the varieties, *Mrs. Dr. Norton* and *Mary Fennell,* for which he was awarded Honorable Mention.

Vaughan's Seed Store, Chicago, had a fine display on the main floor of the hall. The Vaughan special varieties were in evidence and they were awarded Honorable Mention.

The Pittsburg Cut Flower Company, Pittsburg, Pa., were awarded Honorable Mention for fine trade display.

In the Non-commercial classes there were only two competitors, the St. Thomas Horticultural Society and the editor. Dr. F. E. Bennett, in charge of the St. Thomas exhibition, arrived late with his flowers, and not having time to enter in the various classes, he only entered in competition in two classes, one for the Michell Medals, and for the Garden Magazine Achievement Medal. He secured the award for the Garden Magazine Medal and the second award for the Michell Medals. Dr. Bennett could doubtless have competed successfully in a number of the classes in which the editor was the only contestant had he properly arranged his stock for entering in the different classes as listed.

Candidly we dislike the idea of winning first prize in a class where there is no competition and we are much more satisfied to win first prize in competition with several different entries.

There should be more entries at the annual flower show of the American Gladiolus Society. Prizes simply went begging at the Detroit show, and there was no excuse for it. The Non-commercial flower growers show mighty poor sportsmanship in our opinion. We hope that Dr. Bennett will do much better at the next A. G. S. show and enter all the classes that he can furnish stock to fill, and, if we are alive and well, we promise him the best competition that we are able to stage. The educational value of the exhibiting of flowers at the annual A. G. S. flower show cannot be over-estimated. In no other way can the amateur grower know what he is doing as compared with other growers and besides, the prize list should be an attraction and the possibility of winning prizes ought to be sufficient inducement to attract entries from growers within reasonable shipping distance.

The work of C. R. Hinkle as chairman of the Exhibition Committee should not be passed without commendation. Mr. Hinkle worked faithfully to secure the best possible staging of flowers under difficult conditions, and without his help the show would not have been the success that it was.

The judging was in capable hands, the awards in the Open Classes being made by Dr. Frank E. Bennett, St.

Thomas, Ont.; Mrs. A. H. Austin, Wayland, O., and Jelle Roos, Milton, Mass., and for the Non-commercial Classes, J. F. Munsell, Ashtabula, O.; Professor C. A. Hottes, Columbus, O., and C. Zeestraten, Bemus Point, N. Y.

Winners in the Open to All Classes were given in the September issue. Following are the winners in Non-Commercial Classes:

NON-COMMERCIAL GROWERS.

No. 51—Collection 10 named varieties, 3 spikes each. First, $10.00; second, $5.00. First won by Madison Cooper with *White Glory, Charlemagne, Mrs. F. Pendleton, Fair Columbian, Schwaben, Pink Perfection, Myrtle, Europa, Mrs. Dr. Norton, Purple Glory.*

No. 52—Six spikes, White, one variety named. First, $5.00; second, $2.50. First won by Madison Cooper with *Europa.*

No. 53—Six spikes, Yellow, one variety named. First, $5.00; second, $2.50. First won by Madison Cooper with *Schwaben.*

No. 54—Six spikes, Pink or Blush, one variety named. First, $5.00; second, $2.50. First won by Madison Cooper with *Mrs. Dr. Norton.*

No. 55—Six spikes, Crimson or Red, one variety named. First, $5.00; second, $2.50. Second won by Madison Cooper with *Crimson Glow.*

No. 56—Six spikes, Blue, Purple or Lavender, one variety named. First, $5.00; second, $2.50. First won by Madison Cooper with *Anna Eberius.*

No. 57—Six spikes, any other color, one variety named. First, $5.00; second, $2.50. First won by Madison Cooper with *Loveliness.*

No. 58—Three spikes, White, one variety named. First, $3.00; second, $2.00. First won by Madison Cooper with *Europa.*

No. 59—Three spikes, Yellow, one variety named. First, $3.00; second, $2.00. First won by Madison Cooper with *Schwaben.*

No. 60—Three spikes, Pink or Blush, one variety named. First, $3.00; second, $2.00. First won by Madison Cooper with *Pink Perfection.*

No. 61—Three spikes, Crimson or Red, one variety. named. First, $3.00; second, $2.00. First won by Madison Cooper with *Negerfurst.*

No. 62—Three spikes, Blue, Purple or Lavender, one variety named. First, $3.00; second, $2.00. Second won by Madison Cooper with *Mary Fennell.*

No. 63—Three spikes, any other color, one variety named. First, $3.00; second, $2.00. First won by Madison Cooper with *Loveliness.*

No. 64—Best exhibit of at least 15 varieties correctly named, 3 spikes each. American Gladiolus Society's medals. First, Silver Medal; second, Bronze Medal. First won by Madison Cooper.

No. 65—Best and largest exhibit of new varieties introduced in 1917 and 1918, at least 10 varieties, 1 spike each, named. American Gladiolus Society's Medals. First, Silver Medal. Second, Bronze Medal.

Charles F. Fairbanks, Boston, Mass.

No. 66—Best vase 10 spikes Pink, one variety. First, $4.00; second, $2.50; third, $1.50. First won by Madison Cooper.

No. 67.—Best vase 10 spikes Red or Crimson, one variety. First, $4.00; second, $2.50; third, $1.50. First won by Madison Cooper.

No. 68—Best vase 10 spikes Yellow, one variety. First, $4.00; second, $2.50; third, $1.50. First won by Madison Cooper.

No. 69—Best vase 10 spikes White, one variety. First, $4.00; second, $2.50; third, $1.00. First won by Madison Cooper.

No. 70—Best vase 10 spikes Blue, Purple or Lavender, one variety. First, $4.00; second, $2.50; third, $1.50. First won by Madison Cooper.

No. 71—Best vase 10 spikes any other color, one variety. First, $4.00; second, $2.50; third, $1.50. First won by Madison Cooper.

T. A. Havemeyer, New York, N.Y.

No. 72—Best vase 10 spikes *Primulinus Hybrids*, Orange. First, $5.00; second, $3.00. First won by Madison Cooper.

No. 73—Best vase 10 spikes *Primulinus Hybrids*, Yellow. First, $5.00; second, $3.00. First won by Madison Cooper.

No. 73—Best vase 10 spikes *Primulinus Hybrids*, any other colors. First, $5.00; second, $3.00. First won by Madison Cooper.

C. S. Tait, Brunswick, Ga.

No. 74—Best vase 10 spikes *America.* First, $4.00; second, $2.00.

No. 75—Best vase 10 spikes *Mrs. Frank Pendleton.* First, $4.00; second, $2.00.

No. 76—Best vase 10 spikes *Baron Joseph Hulot.* First, $4.00; second, $2.00.

No. 77—Best vase 10 spikes, *Niagara.* First, $4.00; second, $2.00.

H. E. Meader, Dover, N. H.

No. 78—Offers stock to the values named as follows: Best 6 spikes *Myrtle*, 1st prize, $5.00; 2nd prize, $2.50. First won by Madison Cooper.

W. E. Fryer, Mantorville, Minn.

No. 79—Best 12 spikes, *Mrs. W. E. Fryer.* First prize, 50 bulbs of that variety.

Henry F. Michell Co., Philadelphia, Pa.

No. 80—Largest and best display. First prize, Michell silver medal. Second prize, Michell bronze medal. First won by Madison Cooper. Second won by St. Thomas Horticultural Society.

W. E. Kirchhoff Co., Pembroke, N. Y.

No. 81—Best 3 spikes *General Pershing.* First prize, $10.00; Second prize, $5.00.

Jelle Roos, Milton, Mass.

No. 82—Best 6 spikes *Mrs. Dr. Norton.* First, Silver Cup; second, Silver Medal; third, Bronze Medal. First won by Madison Cooper.

No. 83—Best 12 spikes *Mary Fennell.* First, Silver Cup; second, Silver Medal; third, Bronze Medal. First won by Madison Cooper.

Joe Coleman, Cleveland Road, Ravenna, O.

No. 84—Best 6 vases, 6 varieties, one spike each, predominating color, Blue, Purple, Lavender or Mauve. First prize, $3.00; second prize, $2.00. First won by Madison Cooper.

Carter's Tested Seeds, Boston, Mass.

No. 85—Best vase 25 spikes *Primulinus Hybrids*, $10. First won by Madison Cooper.

A. H. Austin Co., Wayland, Ohio.

No. 86—Best 10 named varieties, 1 spike each. First, $5.00; second, $3.00; third, $2.00. First won by Madison Cooper.

C. Betscher, Dover, Ohio.

No. 87—Best 6 spikes Red variety. First prize, one Peony, *F. E. Willard*, value $10; second prize, 10 bulbs Gladiolus *Crimson Glow*; third prize, 5 bulbs, *Crimson Glow.* First won by Madison Cooper.

No. 88—Best 6 spikes White variety. First prize, one Peony, *Chestine Gowdy*, value $10; second prize, 10 bulbs *Crimson Glow*; third prize, 5 bulbs *Crimson Glow.* First won by Madison Cooper.

No. 89—Best 6 spikes Pink. First prize, one Peony, *Prim*, value $10; second prize, 10 bulbs *Crimson Glow*; third prize, 5 bulbs *Crimson Glow.*

No. 90—Best 6 spikes Yellow. First prize, one Peony, *Longfellow*, value $10; second prize, 10 bulbs *Crimson Glow*; third prize, 5 bulbs *Crimson Glow.* First won by Madison Cooper.

No. 91—Best 6 spikes *Crimson Glow.* First prize, $10; 2nd prize, $7.50; 3rd prize, $5. First won by Madison Cooper.

J. F. Munsell, Ashtabula, Ohio.

No. 92—Best 6 vases, 6 varieties, one spike each, predominating color, Red or Pink. First prize, $3; second prize, $2. First won by Madison Cooper.

G. D. Black, Albert Lea, Minn.

No. 93—Offers stock of *Blackhawk, Jumbo* or *Summer* to the values named below:

Best collection 10 named varieties, 3 spikes each. First prize, $5; second prize, $3; third prize, $2.

Arthur Cowee, Berlin, N. Y.

No. 94—For largest and best display of *Primulinus Hybrids.* Offers 200 extra *Primulinus Hybrids* valued at $30. First won by Madison Cooper.

Garden Magazine, Garden City, N. Y.

No. 95—The Garden Magazine Achievement Medal for the finest quality of bloom in the non-commercial classes. Exhibitors showing less than 25 spikes not to be considered. Won by St. Thomas Horticultural Society.

THE FLOWER GROWER, Calcium, N. Y.

No. 96—For the best display of Gladioli consisting of not less than 10 spikes nor more than 20 spikes. Not more than 3 spikes of any one variety. No preference to be given to named varieties. First prize, a life subscription to THE FLOWER GROWER; second prize, a five year subscription to THE FLOWER GROWER; third prize, a two-year subscription to THE FLOWER GROWER.

A. E. Kunderd, Goshen, Ind.

Offers in each of the following classes bulbs to value of the prizes set forth for each class:

	1st	2nd	
No. 97—	$3	$2	Best 3 spikes *Myrtle.* First won by Madison Cooper.
No. 98—	3	2	—Best 3 spikes *Purple Glory.* First won by Madison Cooper.
No. 99—	3	2	—Best 3 spikes *Mrs. F. Pendleton.* First won by Madison Cooper.
No. 100—	3	2	—Best 3 spikes *Alice Tiplady.* First won by Madison Cooper.
No. 101—	3	2	—Best 3 spikes *Lilywhite.* First won by Madison Cooper.
No. 102—	3	2	—Best 3 spikes *Kunderd's Glory.*
No. 103—	3	2	—Best 3 spikes *Pride of Goshen.*
No. 104—	3	2	—Best 3 spikes *Mrs. A. E. Kunderd.*
No. 105—	3	2	—Best 3 spikes *Rose Glory.* First won by Madison Cooper.
No. 106—	3	2	—Best 3 spikes *Youell's Favorite.*

No. 107—First prize, Gold Medal; second prize, Silver Medal; third prize, Bronze Medal. Largest and finest collection of Kunderd varieties. Quality of bloom to determine award in case of collections of about the same size.

Feeding Plants in Pots.

The judicious feeding with liquid manures and chemical fertilizers is of the highest importance during the whole of the growing period with all plants in pots. But it must be done in an intelligent way or considerably more harm than good will result. Never feed a newly-potted plant, or those that have not filled with roots, and, again, take care never to exceed the strength advised by the makers of artificial fertilizers; weak and often should be the rule.

Avoid using liquid manure when the soil is dry; water with plain water first until the whole of the soil is damp through, then give a little of the liquid manure. To use it for watering in the ordinary way is both injurious and wasteful—injurious because it burns the roots, and wasteful because so much runs away through the drainage holes.

Variation of food is most beneficial, and as wide a change as possible should be afforded, say, thus: soot water, liquid natural manure, then some good artificial, with, of course, plain water between each. It is a mistake to suppose that all classes of plants absorb nutriment equally readily. A few are better without it altogether, cacti and cyclamens being notable examples in this respect. Begonias, on the other hand, are gross feeders and will take a large amount.

With more delicate rooted subjects and annuals like schinzanthus, a weaker application should be employed, as the roots easily burn, particularly with chemicals. As to how often liquid manures should be applied, we must be guided by the plant's capacity for absorbing; it is useless to overdo it, as it merely remains in the soil and causes it to become sticky and sour, the plants speedily lose foliage and fade.

Those subjects which flower all at once, so to speak, must not be fed after the color shows, but those which continue to throw up blooms in succession must be kept doing. Ferns and most foliage plants are best confined to soot water and nitrate of soda, quarter of an ounce to a gallon of water, but care must be taken not to use this oftener than once a week, and that none is spilled over the leaves. These work wonders with adiantums, especially resulting in luxuriant, dark green fronds in wonderful profusion. It is preferable to use all artificials in solution, rather than sprinkle the dry powder over the surface and water in; but either may be successful if care be taken, though the liquid is safest, especially with tender rooting plants.—*Canadian Florist.*

We Shall Not Sleep.

BY LT. COL. DR. JOHN MCCRAE of Montreal, Canada.

In Flanders fields the poppies blow
Between the Crosses, row on row
That mark our place; and in the sky
The larks still bravely singing fly
Scarce heard amidst the guns below.

We are the dead
Short days ago we lived,
Felt dawn, saw sunset glow,
Loved and were loved,
And now we lie in Flanders fields.

Take up our quarrel with the foe
To you from falling hands we throw
The Torch be yours to hold it high;
If ye break faith with us who die,
We shall not sleep, though
    poppies grow in Flanders fields.

NOTE.—While THE FLOWER GROWER has never been strong for poetry, yet as the McCrae lyric is doubtless the greatest piece of patriotic expression which the war has produced, and as it perpetuates the memory of the heroes of the world war in connection with the poppies of Flanders fields, we are pleased to make it a part of our files.

Defining Double Flowers.

WILLARD N. CLUTE in *Gardeners' Chronicle.*

THE AVERAGE cultivator of flowers commonly places a greater value upon those which are double than upon the ordinary kinds. It is difficult to understand the reason for this for, judged by any conceivable standard, the specimens fancied are often far less attractive than the others. The stardard seems to be some brush-like or pin-cushion effect and the nearer the specimen approaches this, the more it is admired. And yet, even here, there is a choice of taste, for many admire the Chrysanthemum who pass the dandelion, formed on the same plan, without a thought.

It may be doubted, however, whether the admirer of double flowers could correctly define what a double flower is, or at least could distinguish such at sight. Certainly one would not consider a mere increase in size of the floral parts as a case of doubling and yet a considerable group of flowers are double in this sense only. An examination of any composite reputed to be double—Asters, Sunflowers, Daisies, Dahlias, Chrysanthemums and the like—will show that the doubling is here due merely to an increase in size. It will be remembered that the Composites naturally divide into two groups, one in which the flowers are all ligulate, like the dandelion, and one on which the outer circle of flowers only are ligulate while those in the center or disk are shorter and less conspicuous. When a composite is double, therefore, the disk flowers take on the form of the ray flowers. The dandelion is habitually in this condition, the Sunflower and its kind very frequently become so. But if double means to increase in number, there are no double composites for none of the parts increase in number.

There are, of course, no completely double flowers in nature, and though we may occasionally find double flowers in almost any wild plant, there are very few species that show a tendency toward regular doubling in normal flowers. All the showy double flowers of the gardener have been bred up from chance specimens that have appeared among flowers of the ordinary kind. Among the few species of flowers that indicate slight doubling in the wild state we may name the blood-root, hepatica, anemone, calycanthus, and magnolia. These commonly have more sepals or petals than the number we normally associate with dicotyledon flowers. In most of these it is the sepals that are multiplied, but in the Water Lily it is the petals and in the Cactus it is both sepals and petals that are thus increased in number. It may be noted that nearly all the examples given are from low types of plants. Such forms are especially numerous in the buttercup, poppy, and allied families, and the multiplicity of parts with them is regarded as a survival from still more primitive ancestors in which the typical dicot type with regular 4-parted or 5-parted flowers has not yet become firmly established. If these flowers never have had fewer parts, we can scarcely call even them indications of doubling, however.

In the truly double flowers of the gardener we find one or more of the floral parts increased in number. Usually this increase is found in the petals, not because these are the organs most likely to vary, but because they are the ones the gardener most fancies. The doubling may extend to the sepals or even the bracts near the flower. One form of Carnation is called the wheat-ear because there are numerous duplications of the bracts that subtend the flower which make it look like a head of wheat. In sympetalous flowers the doubling may consist of one corolla within another while in polypetalous flowers there may be an increase in the petals, the number of the latter often reaching a hundred or more. It is but natural that the petals should most readily show an increase in number since they are regarded as having originally been derived from stamens and we may suppose the power to make more stamens into petals has not been entirely lost. This is not the only way, however, in which a greater number of petals have been produced. Often the group of cells that is destined to form a petal split into several parts before the growth is carried very far and several petals, instead of one results. This sort of doubling is most common in flowers in which the number of stamens is not large enough to produce them.

Considering the double flower from the standpoint of beauty, it may be noted that not all flowers are enhanced in beauty by doubling. It takes but a little thought to show that some flowers please us by their color while others produce the same effect by their shape, and still others by a combination of the two. Some flowers are individually too small to attract attention and are pleasing only in mass on account of their color. The flowers of orchids, on the other hand, especially the tropical Lady-Slippers though large, are often dull greenish or of other quiet colors and here it is chiefly the odd shapes that attract. Sweet Peas, Columbines, Bleeding Hearts and the like, please quite as much by their shape as by their color. It is clear, therefore, that some flowers can be doubled without loss of beauty while others doubling would have the opposite effect. One can scarcely imagine how doubling a Pansy or Iris would increase its attractiveness. On the other hand, mere saucershaped flowers may have a certain added beauty given them by a multiplication of the parts.

In a completely double flower, that is, one in which all the essential organs have turned to showy petal-like parts, there can, of course, be no seed produced. If the plant that bears such happens to be a perennial, it may be multiplied by budding, grafting, division, and the like but if it happens to be an annual or biennial herb the case is quite different. In some cases it happens that the pistils are normal and capable of forming seeds if pollinated. Even if pollen from flowers that are not wholly double is used, the race can be kept up. When pollination does not occur the seed for a new crop must come from the specimens that are not wholly double. In flowers expected to be entirely double, there are usually some specimens that set a few seeds and these seeds commonly produce more nearly double flowers when planted and thus the supply is assured. The fact that double flowers produce very few seeds accounts for the high price of the seeds of the best varieties.

Owing to illness the continuation of the Henry C. Eckert series of articles entitled "Fifty Years Acquaintance with the Gladiolus," does not appear in this issue, but Mr. Eckert writes us that he is getting better and expects to continue the series in the November issue and conclude it with the December issue.

We learn that there have been made many sales of flower stocks of various kinds for fall and spring delivery. Indications are for higher prices before another planting season.

The Glad Philosopher's Musings.

I believe it was Seneca who observed: "We are always complaining that our days are few, and acting as though there would be no end of them." What beautiful homes, what beautiful neighborhoods, what a beautiful country America could be in a few short years if one-half the time that is idled away or spent in useless and sometimes harmful occupations were devoted to "fixing things up."

As one drives through the country it is easy to judge the character of the dwellers in the farmhouses by the outward appearances of the home grounds. A clean kitchen and a tidy parlor will almost invariably be reflected in the front yard.

If you have naturally inherited a vigorous constitution, you doubtless owe it to a grandfather who tilled his own land, and a grandmother who did her own housework, and handed down to you the fruits of their labor. If you do not have good health, an interest in flowers and garden experience in growing them will probably do more to endow you with physical vigor than a peck of doctor's pills or shelves full of patent medicines.

Any money in flowers? Well, when one goes to the flower shop to purchase some, he is somewhat impressed with the belief that there is. And yet there are florists who fail in their business. As in every other branch of trade, there is money in flower growing and flower selling for the man who is capable and enthusiastically interested.

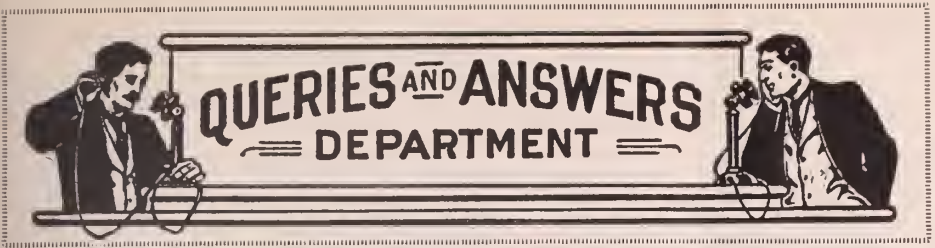
Yes, as Joe Coleman sums it up so tersely, "There's a pot of gold at the end of the rainbow." But there's a long journey ahead and a good job of digging for the man who goes after it.

I recently dropped into the private office of a florist and heard him recite his tale of woe—the old, old story of increasing expenses and decreasing sales. Lying all around I observed numerous unopened copies of one of the leading trade papers devoted to his business, and I could easily understand why he was complaining. Those unopened wrappers gave silent testimony of the fact that he lacked the interest and enthusiasm necessary for a successful business career.

Don't forget that today is the tomorrow for which you put off that little job of fixing up that you should have done yesterday.

THE GLAD PHILOSOPHER.

Bound volume No. 5 THE FLOWER GROWER is ready for delivery, price $1.75 postage prepaid. The very complete index makes it useful for reference purposes.



[This department of The Flower Grower is intended to be one of its most helpful and valuable features. All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication.]—Editor.

Suggestions for Planting and Cultivating Gladioli.

To the Editor:—

I notice your reply in an old issue of The Flower Grower advising an inquirer to plant full size Gladiolus corms as close as two inches in the row and in double rows. I will need more space this year as I am expecting to increase my plantings. I want to confirm my understanding of your advice as above, and ask if your constant experience justifies placing corms so close together? I have been planting four inches apart, but if they will do as well two inches apart, I will help myself to this additional planting room.

Have also been taught by experience to avoid double rows as in the narrow space between the rows it is difficult to prevent weeds from growing up. How do you manage that or have you ground that does not produce many weeds?

I have been growing for blooms, but it seems to me that comparatively few cormels are produced especially of those varieties which are not heavy producers. Do growers who raise bulbs for market sell the flowers as well?

W. G. N.

Answer:—Gladiolus corms can be planted to good advantage as close as two inches in the row and in double rows. We plant in a trench made with a hand hoe. We start the trench with a wheel hoe run alongside of a planting line stretched tightly so as to give a straight row. After throwing out all the soil that can be conveniently thrown out with the wheel hoe, we use an ordinary hand hoe which makes a finished flat-bottom trench about six inches wide and five inches to six inches deep. The trench should not be less than five inches deep for first size corms and six inches is preferable in light soil. A flat bottom trench of this kind makes the double row system a very practicable one and makes deep planting comparatively easy.

Close planting in a double row necessarily means that the ground should be rich in fertility. If there is any question about the fertility of the ground, wider spacing is desirable. Close planting, of course, will not give as good results in size of bloom nor in increase in size of corms and number of cormels as the wider spacing, but when one has his soil well built up in fertility and good results can be had with the close planting, why use the wider scheme of planting, meaning more labor, more territory to work over and greater loss of space?

The double rows are somewhat difficult to cultivate between, but a rather large part of the cultivation is done anyway before the sprouts get above the ground. After the plants are several inches high, the space between the double row can be cultivated with a narrow hand tool or a cut-down garden rake, and the work can be done in a very short time. I use a sort of a claw with five teeth mounted on a broom handle and it works well. It is not practicable, of course, to cultivate between the double rows after the stalks get to be eighteen inches or two feet in height, and it is really not necessary to do so as weed seeds have mostly germinated by that time, and cultivation between the rows is all that is necessary.

Raking over the ground two or three times or more after planting, with an ordinary garden rake before the Gladiolus sprouts begin to show above ground will kill many weeds and does more good than three times the work later on after the weeds get well established.

Yes, people who grow bulbs for market also sell the cut flowers and they may be considered a by-product in this case, and when the spikes are cut for market it does not weaken the bulb in the least, providing the corms are planted early, and sufficient growing season follows the cutting of the flower spike. It is understood, of course, that when cutting the flower spike very little foliage should be cut with the spike, and at least four good leaves must be left on the plant to mature the corm.

Madison Cooper.

Planting and Caring for Darwin Tulips.

To the Editor:—

I would like some advice in regard to Tulips. I have some of the Darwins that have bloomed two seasons. After they were through blooming last spring I dug them up and they have lain on the floor of the corn crib since. How should they be treated from now on? Simply cut off the tops, divide them, and put them in the ground again? If so, when should they be set out?

When I got them originally it was very late in the fall or the beginning of winter and I covered the ground with manure to keep it from freezing and then set them out. I am only an amateur trying to raise a few flowers for our own gratification or a few friends or to decorate the church "on a Sunday."

(Western New York.) F. G.

Answer:—To secure the best results in New York State, Tulips should be planted out *late* in October or during November. Set the bulbs about 4 inches deep in well prepared porous soil, firming the bed and covering with a layer of stable litter which may be removed in the spring if it interferes with the growth of the plants.

When planted in a sunny, sandy, well drained bed, Darwin Tulips, which are more satisfactory than many of the earlier blooming varieties, may be left in the ground several years without being disturbed. Resetting is necessary when, after 3 or 4 years of favorable growth, the bulbs become crowded. They may then be carefully lifted and planted four or five inches apart. The best time to do this is during June, or if preferred the bulbs may be dried off and stored in paper bags in a dry, cool place and replanted in the autumn.

Tulips are never at their best if planted in a very shady, moist place and if left in the ground in such a situation the bulbs are apt to rot, particularly after a rainy spring. Where a favorable location cannot be supplied the bulbs should be lifted after the foliage has ripened and the bulbs have had ample time to mature, and stored in paper bags, as above suggested until planting time.

Bertha Berbert-Hammond.

Orchids in the Garden.

In shady, damp places ferns are about the only plants that will thrive and interesting, permanent beds can be made of the hardy sorts. A few native orchids, however, will produce an unusual bed in this situation, so difficult to handle successfully.

If the soil is heavy, it will be necessary to make it more open by working in sand, if orchids are to be grown. Peat or soil from the woods is better than sand, if it is to be had.

When the bed has been prepared plant Lady Slippers, as these enjoy shade and moisture. All the following are good:

Cypripedium *spectabile*, leaves six to eight inches long, bearing large white flowers; shaded delicate rose, with globular lip of rosy carmine, flowering in July. It is common in bogs and rich, low woods. It is easily multiplied by means of divisions.

Cypripedium *acaule* is another beautiful native orchid, to be found growing in moist or sandy ground, usually in the shade of evergreens. The large handsome flowers are of a delicate soft rose. C. *candidum* grows in the Western States in bogs and on low prairies. The white flowers are not large but pretty. C. *pubescens* is the brownish purple and yellow lady's slipper, found growing in low woods and bogs, flowering in the early summer. C. *parviflorum* has smaller flowers than *pubescens*, though the yellow and brown flowers are somewhat fragrant.

Then there is the *orchis spectabilis* with glossy leaves, three to five inches long, growing from a fleshy fibrous root. The flowers are pink-purple and white, produced in May and June. The plants are to be found from New Brunswick south to Georgia and as far West as Missouri, in rich woods.

These will form a rather unique bed and, providing they have sufficient moisture and shade, will succeed at the north side of the house or beneath trees. Sufficient moisture does not mean a drenching one day and drying up for a week, but keeping the soil constantly moist.

The flowers of these plants are almost as beautiful as the choicest greenhouse orchids and the plants can be had for the hunting them up.

Have mercy in digging wild plants. Take no more than will be actually cared for, so they may not be exterminated.

There is also the Habenaria division of the orchis family, probably the handsomest of our native orchids, found growing in bogs or low grounds. These include H. *fimbriata*, larger purple fringed orchid. H. *psycodes*, smaller purple fringed orchid; H. *lacera*, ragged fringed orchid, and others. These require peaty beds with ample moisture, but are worth the trouble given them when they are successfully grown.—E. C. Vick, in *Gardeners' Chronicle*.

The Fringed Gentian.

The Fringed Gentian which grows in a comparatively restricted territory is one of the most beautiful of American wild flowers. Artists credit it with possessing a perfect form and being in color, a true "sky blue."

The Fringed Gentian has been the theme of beautiful poems, the best known being written by Bryant.

The plant which is generally found in wet locations is a late bloomer, Sept. to Nov. The petals of its large deep blue flowers are daintily fringed, and on cloudy days and at night twist so as to close the flower. Because this beautiful flower is so rare, to find it is an event to the nature lover.

The following little poem was inspired by the finding of the first Fringed Gentian of the season: B. B. H.

A PRESSED FRINGED GENTIAN.

By Melvina Berbert Hammond.

(Aged nine years.)

Beside a crystal spring
An azure Gentian stood
It was the loveliest thing
Within the leafy wood.

A little maiden came
And plucked it by its stem,
She called it by its name
And carried away the gem.

Today it may be seen
Carefully pressed and dry
The leaves are still as green
The blue is like the sky.

In addition to the Blue Gentian article by Wilbur A. Christy on page 86 of the September issue, we are pleased to be able to give our readers additional matter on this subject by Mrs. Hammond and her little daughter as above. We hope it will lead to a hunt for the Blue Gentian by those who love nature study.

Flowers.

How the universal heart of man blesses flowers! They are wreathed around the cradle, the marriage altar, and the tomb. The Persian in the Far East delights in their perfume, and writes his love in nosegays; while the Indian child of the Far West claps his hands with glee as he gathers the abundant blossoms—the illuminated scriptures of the prairies. The Cupid of the ancient Hindus tipped his arrow with flowers, and orange-flowers are a bridal crown with us—a nation of yesterday. Flowers garlanded the Grecian altar, and hang in votive wreath before the Christian shrine. Flowers should deck the brow of the youthful bride, for they are in themselves a lovely type of marriage. They should twine round the tomb, for their perpetually renewed beauty is a symbol of the resurrection. They should festoon the altar, for their fragrance and their beauty ascend in perpetual worship before the Most High—Mrs. L. M. Child in *The Fra*.

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THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

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1919

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
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Proposed Flower Growers' Associations.

[Written expressly for The Flower Grower.]

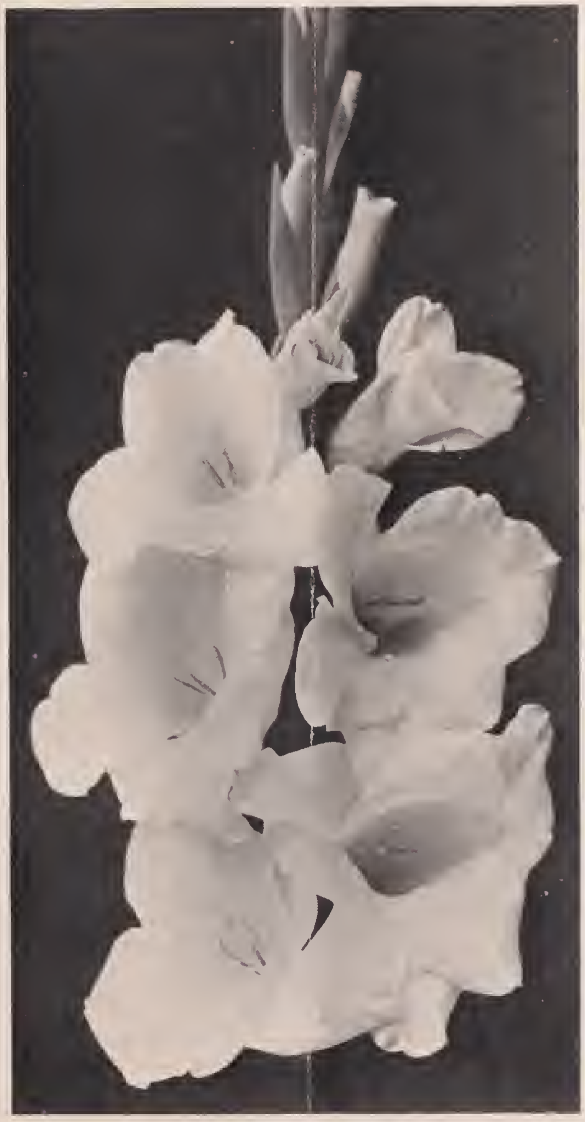
By Mary Graham.

TO THE VARIOUS clubs that women form for pleasure or for profit, to themselves or to the community, might well be added the Flower Growers' Association.

One great purpose of such an association would be beauty. In five years an active flower club could transform an unattractive community into a veritable paradise of living, changing beauty. Every ugly spot could be covered by something pretty. Back fences could become trellises for Roses, Wisteria, Clematis, or Honeysuckle, or be concealed by long rows of Lilac or flaming Pomegranate. Plain outhouses could be artistically draped with yellow Jasmine or Lady Bankshire Roses. Henriettas and Kaiserins could give a rosy farewell from the front porch to the lord of the cottage as he leaves for his day's work, and a happy welcome to the chance visitor. Along every border and in every nook and corner Violets and Hyacinths and the yellow flowers of spring, Roses and Peonies and Poppies and Daisies and everything that grows and looks pretty could shed its uplifting influence on all within sight.

Another purpose would be health. The outdoor work, the joy in the development of beauty, and the pleasure of working with others toward a common purpose would necessarily bring better health to all active members.

These two motives would themselves justify such an organization, but the primary purpose might well be a more material one—that of making money. In every town, city, suburb, and rural community, there are enough interested women to form a floral club—women who live in their own homes, with garden plots, and who love flowers. The majority of women have some means of support, but it is only the favored few who have all the money they care to spend. The average woman would be glad to vary the routine of her housework with something like play and be able thereby to add new comforts and conveniences to her home, secure some additional advantages for her family, and do the many effective little things that a small amount of extra money can accomplish.



GLADIOLUS—*EUROPA.*

(See Page 113.)

There is no question as to the money to be made from flowers and plants. To prove that they have a high value it is necessary only to buy some. A porch box six feet long can be filled with a promise of brightness and fragrance for $2.50. Plants for a bed of pink Lantana and Dusty Miller against the garden wall would cost not less than $5, and a bed of Heliotrope by the front porch would call for an expenditure of $4. A landscape effect in Cannas about a place would cost $7. Good Rose plants are a bargain at $2 a dozen. Cut flowers do not lag behind in value. A small vase of Sweet Peas for the breakfast table would cost no less than 50c., and enough Carnations to make a presentable funeral wreath would cost $3. Chrysanthemums sell for $2 a dozen, at the very lowest, and on up to $6, while rare flowers sell for almost anything.

There is no question, either, as to a market for all the products of such an industrial organization. That is, for all flowers of standard perfection. There is no better sale for poor flowers than for poor apples or potatoes. The fact of such high prices proves the demand for fine flowers. There are times when every one who can possibly do it *must* have cut flowers; and those who can afford the luxuries of life must always have them, just as they must and will have fine linen, fine furniture, and fine pictures. Every woman with the home-making instinct wants some flower pots and some blooming things around her; and every man with the homing heart and a proper pride of possession wants decorative plants and bright flower beds around. Every place that reaches the dignity of an estate must have decorated grounds, and the artistic spirit expresses itself as often in the growing of Roses as in the developing of fine architectural effects.

The number of plants that can be grown in a small space would astonish one who has never counted them. In a bed four feet by two at least one hundred and twenty-eight Roses can be rooted in three inch pots, and be worth, at the end of one year, about $12.80. At this rate, on one acre of land enough Roses could be conveniently grown to bring about $3,500. A bed of equal size planted in Chrysanthemums will produce flowers worth $4; and enough plants will come from the roots next spring, without additional care or cultivation, to be worth as much, or even more. There are several perennials that will produce three or four dozen plants to the square foot of soil, and many more small annuals can be grown from seed in an equal space. These figures presuppose most careful culture, for flowers are very human in that they give their best only in response to the best care.

This work of making the co-operative growing of flowers and plants profitable could be accomplished thro' the ordinary club organization, with a paid secretary-treasurer who could give all her time to the work and keep a complete record of sales and collections. The number of members would probably limit itself according to local conditions, or it might be limited to suit the convenience of the club. The work could be easily arranged to suit the taste and the opportunities of the members. One woman might make a specialty of Roses—in fact, a dozen members could devote their attention to the many and various personifications of the "Garden Queen." Another member might prefer to grow Lilies, another Violets, and another shrubs. Some one with a greenhouse could furnish all customers with Ferns; another, of equally fortunate possession, could study to grow those flowers especially suited for funeral offerings. The growing of annuals and saving of seed could profitably occupy the attention of several members. Those women with most time and energy could amuse themselves by trying to see how many varieties of Chrysanthemums they could gather into one garden and how large they could make them grow. Every one of a hundred flower lovers could find work to suit her taste in an active, well organized flower growers' association, and reap a reward in exact proportion to the amount of her work and to the skill with which she does it.

The business part of such an organization would call for careful attention. The packing, shipping and marketing of plants would have to be done in a skilful, business-like way. This would have to be learned by officers and members, just as truck and fruit growers must master the details of their work.

The benefits of a successful association of this kind would soon write themselves plainly over the whole community. Their first expression would be beauty—beauty everywhere. Beauty is a response to some fine psychic demand, and its effect is always uplifting. The thoughts of a flower growing community would be drawn away from inferior things and fixed actively on beauty production, with all its attendant good.

Another benefit a flower club would bestow on its people would be a general feeling of prosperity with its accompanying rise in personality. There would be seen more of the things that minister to the needs of life, to its comforts, and to its luxuries; a little more independence in the people around; and more contentment in every face. Among all members and workers would be seen the spirit and the power that come from the absolutely ethical condition of happy work to a good purpose.

The influence of a floral club will not stop with its uplifting power in its own community, but will go with every plant and flower it sends out. Every plant, every package of seed, if its mission does not fail, is going to carry beauty and brightness to some little corner. Every bunch of flowers is going to carry good cheer to whoever receives it, and to express love and sympathy where nothing else could do it so well. Surely an effort that calls only for pleasure and brings only good is worth while—an effort that shows forth Nature's most artistic handiwork as a symbol of the love and joy that runs through the whole of creation.

Do We Make the Most of Our Gladiolus Gardens?

[*Written expressly for The Flower Grower.*]

I suppose the great majority of people would, without hesitation answer "Yes," to that question, and be perfectly sincere in doing so, but it seems to me there is one way of making use of those gardens of ours which is, with the average amateur, a thing of mystery, to be indulged in only by professional growers. Let me ask the question to bring out the point.

Have you, brother or sister amateur, ever experienced the pleasure of watching the development and growth of a flower you could claim, not by right of purchase, but of evolution, as your "very own?" If not, you have missed one of the great pleasures of gardening, and are closing to yourself the gate to the inner shrine.

Three summers ago I decided I would make an attempt at hybridizing Gladioli. What I did not know about the subject would fill several books, but other fellows had turned the trick, so why not I? This summer the first of my seedlings bloomed. To be sure, they are not what my small nephew would call "Humdingers," but they are like no other stock in my garden or anywhere else that I have seen, and they are "mine," in a sense, none of the others are.

Are they worth the waiting for? I think so. I will admit I was rather disgusted when I dug the corms last fall. The largest were about the size of a fair sized filbert nut, and I looked forward to another year of waiting, but here are some of the results:

No. 1.—Flower, good form, 3½ inches across the bloom, color, deep lavender, shading to cream in the throat, pale yellow blotch on the lower petals, blotch pencilled carmine. *Baron Hulot*, crossed on *America*.

No. 3.—Flower nearly four inches across; color, dark red; pencilled with a rich cream on the lower petals. The lower petals also bore down the center a narrow tongue of scarlet, and there was just a suggestion of purple in the throat. *Baron Hulot* crossed on *Faust*.

No. 4.—Dark rosy cerise; flower 3½ inches across; lower petals bearing a blotch of very pale yellow veined with carmine. *Baron Hulot* crossed on *Mrs. Francis King*.

No. 7.—Flower, four inches across; color mauve with just a tint of pink, shading to purple in the throat, very strong grower, making a strong, straight spike, bearing, even from so small a corm, 14 buds, all of which bloomed. *Baron Hulot* crossed on *America*.

Four others have bloomed, the flowers being smaller; a cream, a pink with purple stripes on the lip, a rich rose with purple markings, and a royal purple, shape and substance of *Baron Hulot*, the male parent, and the same faint stripe down the center of each petal.

There are many others still to bloom, but had I got none but the one I have designated "No. 7," I would count the time well spent, and the reward sufficient. I have not had exceptionally good ground to work with, neither have I spent a large amount of time on them. The folks tell me I am as proud of my seedlings as the average man is of his first child. Maybe it is foolish, but they are mine, and they have meant that I have got out of my garden what the average amateur never gets.

This is just a hint. Why don't you try too?

GEO. D. MURRAY.

An error crept into our report in the October issue of the American Gladiolus Society's flower show held at Detroit in August. First prize for twenty varieties, three spikes each, was won by C. Zeestraten, Bemus Point, N. Y., and not by United Bulb Company as stated.

Tulips and Their Culture.

By Bertha Berbert Hammond.

[*Written expressly for The Flower Grower.*]

Tulips have enjoyed great popularity for over three hundred years, and are still easily the most widely and favorably known of the Dutch bulbs. This is due to the fact that they possess unusual beauty, hardihood and that they will produce in the spring when garden flowers are rare and most appreciated, a glorious display that by a careful selection of early, medium and later blooming varieties, may be made to extend over a period of about two months. Succession of bloom may also be secured by making plantings a week or two apart, during the late fall until the end of December. Even should the ground seem hopelessly frozen, it will not prevent the planting of the tulips, for if the bulbs are set on top of the frozen soil, covered firmly with earth obtained elsewhere, and then well mulched, they will bloom a little later but just as beautifully as those planted earlier, and when Tulips are in bloom then indeed

> The spring clad all in gladness
> Doth laugh at winter's sadness.
>
> —*Morley.*

To the flower grower who is acquainted with only the older sorts, the newer imported varieties will prove an agreeable surprise. Among the most desirable of late or May-flowering Tulips are the sturdy, stately *Darwins* that produce on long stems very large, showy flowers. Though they exhibit no pure whites or clear yellows, they display a wide range of coloring from blush pink to nearly black. The new *Rembrandt* Tulips are closely related to the *Darwins.* They are very graceful in form but instead of solid colors show rich variegations, stripes, blotches and other markings beautifully blended. Another distinctive class of May-flowering Tulips is found in the *Breeder* Tulips that bear enormous flowers in which rich browns, odd buffs and bronze shades predominate.

Some beautiful novelties are to be found among the *Cottage* Tulips which were so named because many of the bulbs of this class were found growing in old and often neglected cottage gardens of Great Britain where the original bulbs had been, presumably, carried by religious refugees in the 17th century. That off-sets from such bulbs, in spite of neglect, should have survived speaks eloquently for the hardihood and tenacity of this variety which includes some of the most beautiful of Tulips both in form and coloring.

Exquisite Tulips are the *Picotees,* which bear on graceful stems large flowers, the distinguishing feature of which being the bright crimson bordered petals.

Strikingly odd are the fantastic *Parrot* Tulips, so called because the bud resembles somewhat the head of a parrot. These gorgeously colored flowers with their grotesquely horned, twisted, curved or fringed petals are interesting, but only the best developed bulbs of this singular novelty, are dependable for bloom.

As they are not in common use, one rarely sees the variegated Tulips with their broad cream-white bordered or striped leaves and brilliant flowers that produce an unusually odd and showy bed.

The large, gayly colored *Gesneriana* Tulips, (named after Conrad Gesner who, in 1559, introduced Tulips into *Augsburg,*) are a late blooming variety that possess the additional merit of remaining in bloom a long time.

Duc Van Thol Tulips are dwarf in growth and bear rather small but beautifully colored flowers. Because they come into bloom about two weeks before any other variety and that they are about the most reliable Tulip for indoor forcing, in the hands of the amateur, make them popular.

There are numerous other fine va-

(*Concluded on page 117.*)

"Water Lilies or Nymphaeas are among the most royal, gorgeous, diversified and universally admired plants in cultivation."—*Sturtevant.* We have here Nymphea *odorata* common in Wisconsin.—(From Wisconsin *Horticulture.*)

Those who are especially interested in Water Lilies should refer to the following issues of The Flower Grower: March, 1918, page 26; May, 1918, page 50; June, 1918, page 70; July, 1918, page 76.

NYMPHAEACEAE RICHARDSONI.

Photograph from the ponds of F. P. Clark, Garrettsville, Ohio. The scientific name indicates the Water Lily family in general, the last half of the name that this particular variety was originated by Mr. Richardson.

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MADISON COOPER, CALCIUM, N.Y.
FOR BOTH AMATEUR AND PROFESSIONAL FLOWER GROWERS

Subscription Price: $1.00 per year, 3 years for $2.00.

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Growers are invited to contribute articles or notes over their own signatures, but the Editor reserves the right to reject anything which in his judgment is not conducive to the general welfare of the business.

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Vol. VI November, 1919 No. 11

> "*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

Save The Wastes.

The high cost of fertilizers during the past year or two and the probability of continued high prices, make it extremely desirable that all waste garden materials should be saved, and we have called attention to this before. A rubbish pit in an out-of-the-way part of the garden, perhaps screened by some tall growth such as sun-flowers, or if made a permanent thing, it may be screened by a neat hedge, can be made to pay big dividends. All garden rubbish which is readily decomposed, like weeds, lawn trimmings, leaves, trimmings and refuse from the kitchen garden, and, in fact, any waste vegetable matter which is comparatively soft and easily rotted can be made into a compost which is worth good American dollars as a fertilizer. Such a compost if built in layers; First, wastes from the garden, then stable manure, is readily rotted and especially valuable, and it will afford a cheaply acquired supply of nitrogenous fertilizer.

Don't burn fallen leaves in the autumn nor throw weeds, garden wastes, etc., on the dump where they become a nuisance, but compost them, and allow them to rot into the condition of leaf mold. If the decaying material is offensive in any way, a sprinkling of loam or road dust is all that is necessary.

MADISON COOPER.

Gladiolus *Europa*.

This variety has been much discussed from time to time, and by most growers it is acknowledged to be the purest white Gladiolus grown. It is not only a very pure white, but is of beautiful form and always a winner at the flower shows. Up to recent years *Europa* was supposed to be very much subject to disease and a weak grower, and the stock which was grown in Europe surely was bad enough in this respect. The editor's first experience with *Europa*, was about the same as all other growers, but from year to year his stock of *Europa* has been improving until this year with cleaner and larger corms than ever before to plant, he is getting the most beautiful *Europa* that he has ever grown. One spike recently measured from the base of the first bud to the tip of the spike, over 19 inches, and many spikes in the row were fully four feet in height.

It has been the aim of hybridizers to produce a white as pure and graceful as *Europa* and of much stronger growth, and many so-called whites have been introduced but none of them in our opinion rival *Europa* in purity of color and form of flower.

Primulinus Hybrid Gladioli.

Much time and thought has been put on the crossing of Primulinus species with many of our best standard and new varieties of Gladioli during the past few years. The *Primulinus Hybrids* resulting are many of them beautiful and unique and as a diversion in the culture of Gladioli they will doubtless always hold an interesting place.

But, because of their uniqueness and their unusual and graceful characteristics, hybridizers have, we believe, formed an erroneous opinion of their true value and some of the best originators in the world have, in our opinion, wasted a lot of valuable time in naming and propagating some *Primulinus Hybrids* which are of little or no value as improved varieties.

This word of caution should not be taken in a too pessimistic strain, as *Primulinus Hybrid* Gladioli will doubtless always have their place in floriculture, and we write as above wholly as a caution to those who are working along this line to put them on their guard against the naming of varieties which have little merit. But a very small fraction of the *Primulinus Hybrids* which have been named are likely to be accepted as standard varieties, and propagated commercially.

The practice of allowing crowds at flower shows to vandalize (yes, vandalize is the right word) the flowers on the last day of the show, is absolutely wrong. Such vandalism would not be practised by true flower lovers, and no useful effect is accomplished by such a wild scramble. We recommend that those in charge of flower shows absolutely prevent such occurrences by posting guards during the last hours of the show.

As before stated, those who scramble for flowers in this way are not real flower lovers, but vandals who think they are getting something for nothing. Flowers left over from a flower show ought to be sent to hospitals or devoted to some other commendable purpose and visitors should not be subjected to the debasing spectacle of the flower scramble.

Continued complaint is being made of the Gladiolus variety *Halley* being sold for *Prince of Wales*, and *Prince of Wales* stock being mixed with *Halley*. The varieties are enough similar so that the roguing of *Halley* out of *Prince of Wales* is not very easy. *Prince of Wales* has become so popular that possibly some unscrupulous traders have deliberately mixed *Halley* with *Prince of Wales*. It need not perhaps be stated, that anyone so unscrupulous ought to be avoided in a business way. Anyone who has bought *Prince of Wales* and had *Halley* delivered, or found their *Prince of Wales* badly mixed with *Halley*, is justified in protesting.

Growers of Gladioli who are anxious to increase the number of varieties they are growing will find the purchase of collections economical. Some very favorable prices are made for meritorious collections and in some cases introducers of new varieties will only sell certain things in collections and not singly.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

Counting Her Blessings.

THE little woman of the wood opened her door and standing on its threshold looked on the world without.

Opposite and beyond the clearing, which constituted the cultivated area of her small farm, were the outskirts of a dense wood which, freed from foliage, revealed its interior vastness. As her gaze traveled on and reached its darkened depths she murmured: "They are like soldiers in uniform of winter gray," and a feeling of being protected crept over her. "I cannot believe there are evil trees even if the legends do say so, I believe they are *all good* trees."

Throwing a light wrap around her shoulders, she walked toward them over a thick carpet of rustling leaves. "How many blessings I have, all these great trees ever near me, and a good home all my own." She turned to look at the house which, though small, presented an appearance of being substantial, and the windows with their snowy curtains forming a background for blooming house plants gave an impression of inviting cosiness and comfort. Outside the leaves had fallen from the Bittersweet vine which had so gracefully draped the porch in summer, but the berries were there, their brilliancy enhanced by the weather-worn gray of the building.

"It is small," she soliloquized, "but I have all this beautiful out-of-door too," looking around, "and I don't need a large house. Yes, I have many things to be thankful for. How fortunate that I found Louise, her company and counsel are a constant blessing. There's these trays, I never would have known about them if it hadn't been for her. I think they will be a great help to me, for she says that if the bulbs are spread in them and placed where they will have a circulation of air, that they will cure quickly, and I need have no fear about getting them cleaned properly for market; that the roots will pull off easily when at the right stage. I have no trays now, but will have some made from the measurements as she has given them to me:

> 'Light wood $\frac{7}{8}$ inch stuff 48 inches long, 18 inches wide, 4 inches deep; bottoms made of builders' lath, with narrow strips across bottom for support. Three cornered piece of wood 1 inch thick tacked to bottom of each corner to make air space when piled one above the other.'

She says this size is light to handle, and pile up compactly and will save room in cellar.

"I appreciate the information about sowing rye in fall to plow under in spring as a fertilizer. It's coming up splendidly.

"Of course I could have learned about it in almost any farm paper but—well—perhaps I have allowed myself to become careless about reading. I can see that I have been making a mistake and shall not wait until the New Year to turn over a new leaf but will send in my subscriptions today for the best floral literature I can find, and shall join the American Gladiolus Society and also the Woman's National Farm and Garden Association and by my winter reading be ready to enter into my work next spring better prepared because of more cultural knowledge of the work in which I am interested.

"For the blessings I have received and the privileges that are before me I am truly thankful."

MRS. A. H. AUSTIN.

Gladiolus—*Europa*.

(Subject of Illustration on front cover page.)

Originated by Wilhelm Pfitzer, Germany, and introduced by him about ten years ago. Without doubt the purest white Gladiolus.

Although we have illustrated Gladiolus *Europa* several times in our columns, yet we cannot well refrain from repeating the illustration as our good friends send us in photographs of exceptional merit. The one which we are using on our front cover page in this issue was sent us by F. M. Palmiter, Janesville, Wis. *Europa* certainly has its weaknesses, but we have yet to see a white Gladiolus combining both purity of color and beauty of form, which anywhere near equals *Europa*.

Europa is generally known as a weak grower, and it is a fact that under most conditions it has weak foliage, and does not make rapid nor strong growth. It makes few bulblets and these germinate poorly. It, therefore, increases slowly and being subject more or less to disease, *Europa*, although introduced for some years, is not obtainable in considerable quantities anywhere. The price, therefore, is comparatively high and it probably never will be low for the reason stated.

Our experience with *Europa* is that it needs rather strong soil and that it will not do well unless well fertilized.

Work Made Easier and Happier by a Blooming Garden of Roses.

Our good friend, H. M. Marshall, of Vicksburg, Miss., sends us a clipping from a local paper, telling how the public grain elevator of that city, employing about 200 people, has been improved by the planting of Roses on the spare grounds around the big plant.

The work is especially to the credit of Superintendent Sanford and Foreman Henry Beelman and is in connection with recreation gardens for the employees. As Roses bloom freely in the south, this beautiful flower forms the greater part of the ornamental plantings which have been made. In fact, it may be called a Rose garden. Other flowers will doubtless be added in the general development of the scheme.

The psychological effect of such plantings as above mentioned is much more important than most people imagine. Although it is difficult for the average mind to analyze the effect, yet there is no doubt but what flowers, and neat and orderly surroundings have a great softening and elevating influence, and thus improve the spirit and tone of the work of the employees, making work lighter and leading to greater efficiency and higher quality work in all departments.

Let it be Flag Iris.

[*Written expressly for The Flower Grower.*]

By H. W. GROSCHNER.

(BLUE FLAGS.)

" To southern skies my fancy flies,
Beneath whose soft beguiling,
What songs I sung, when hope was young,
And all the world was smiling
O memories dear, that linger near
The meadow brook and wildwood,
And blue flags sweet that made complete
The sunny days of childhood."

The suggestion of Mrs. Louise B. Wilder in the *Garden Magazine* that a popular name should be chosen for the bearded Iris that has none but happy associations is well made and I withdraw my plea for the use of the word *Fleur de lis* as the first designation. The Flag Irises are native to many countries and many countries have contributed choice varieties that enrich our gardens, accordingly it would appear that the use of the phrase Flag Iris would be the happy medium that all could agree on and with the result of bringing about a decision. The Flag Iris would glorify the ensign of every country and the soldiers that gave their lives to preserve their country's flag. The present time is very appropriate to plant the flag flower liberally in the front door yard, by the roadside, in parks, public grounds and cemeteries and everywhere so that we may revere and honor those to whom reverence and honor is due; all who died in the service of their country for you and for me, here and "over there" who "gave their today for our tomorrow." And we cannot honor them more beautifully in enshrining and hallowing their memory than by associating their lives with the beautiful. It has been said of them almost as a benediction that "Theirs was a work of conscience and conscience is the voice of God speaking through a human soul."

" The Blue-flag, waving welcome from the marsh,
The Lily of the pond and of the vale
The Daisy, Violet and Buttercup,
The Elderberry and the Bridal Wreath
From garden, grove or roadside all are culled
And weaved in wreaths to deck the soldiers' graves."

WAYSIDE RAMBLINGS

NOTES ON PLANTING, OR BEST TIME TO PLANT.

Mr. Auten took exceptions to my article on raising Gladioli where it said that early planting did not give much earlier blooms should the season be cold and backward. He said that it was necessary to plant early if one wished good spikes of bloom, or words to that effect. Early planting may give the best spikes in Missouri, but it is not that way here. I claim that it does not make any difference whether planted early in April or the middle of June for one will not get good spikes should the weather be hot and dry just as the spikes are showing. I planted a few bulbs this season the 26th of June, and they grew good spikes.

Another authority says that Delphiniums and Peonies resent being disturbed when once well established. This is contrary to my experience for I have divided old clumps of both late in the fall with good success.

A customer of mine wished me to hurry along his order of Irises for he had been reliably informed that they should be planted in July. I have planted them every month in the year but January and February, and if you lived in Minnesota you would understand why I did not plant them then, and I wish to say that I have had good success whenever planted. If we have success when we plant why should we worry about just when is the best time? If it were necessary to plant all of my Irises in July it would be necessary to reduce my planting to a small acreage. It is not economical here, either, for no crop can be raised and removed in time for July planting.

Mr. Auten says that the way he plants the tall bearded Irises is to lay them on the ground and set his foot on them. They will surely grow if planted that way for I have dropped them on the ground when planting in the fall, and have them grow. But now comes the wrong part of his method. I will say wrong in Minnesota, at least. Weeds grow here, and it is necessary to cultivate, and cultivate as close to the rows as possible, and if they were dropped on the ground, and simply stepped on with the foot wouldn't many plants be pulled out of place before they became established?

The way I plant them is thus: I dig a shallow trench perpendicular on one side, and the plants are placed against the perpendicular side. I plant all plants this way, and if you try it once you will always plant that way.

Practically all Peony growers prefer to plant Peonies in September for best results, and some claim that it is the only favorable time. I have planted them in the fall as late as December 4th, and in the spring as late as the middle of June. Those planted in June were dug in the fall, and kept in sand in my storage cellar.

One May I had a small piece of land that I wished to clear, and there were a few Peonies on it. Some of them had grown a foot, but I did not lose a plant. I have had good success whenever planted, and what more can anyone ask?

WILLIS E. FRYER.

A QUESTION OF SPELLING.

Verbal criticism is always disagreeable, but, as people naturally expect in a magazine of the quality of THE FLOWER GROWER, correct information, I will call attention to what appear to me some errors in spelling of names of varieties of Begonias in the very interesting article on these flowers in the October number. I may be mistaken in some cases. *Recinafolia*, on page 96, should be, I think, *Ricinifolia; Otto Heckor*, unless the catalogues have generally been wrong, should be *Otto Hacker.* The French spelling of the word for *Glory* is *Gloire* instead of *Glorie*—a very natural mistake. I suspect *Majeska* is meant for the name of the celebrated Polish actress, generally spelled *Modjeska* (?) *Glaucaphylla* is probably the printer's substitute for *Glaucophylla.*

To the excellent paragraph on the propagation of Rex Begonias I will add that I have seen these propagated by cutting through the large veins on the under side of the leaves and laying them down on the sand of the bench. Little plants will start from these cut places. I have also propagated the popular variety B. *manicata aurea* from single leaves inserted in the sand. One of the fine varieties for pot culture is *Paul Bruant* with large leaves, somewhat in the palmate class, a fine tree-like habit, especially in young plants, rapidly grown, and large clusters of green-white-pink flowers towards spring. Very handsome specimens may be had of the old *Metallica*, grown without check from a single stem. Another popular old variety is called, I think, *Hydrocotifolia* (I am not sure of the spelling) named, apparently from its resemblance to *Hydrocotyl* (?) Which last reminds me that the old race of real gardeners who knew the names of all sorts of plants, is running out, at least in this country. The florist's business has so run to specialties that many young men who have worked for years in greenhouses know the names of only a few sorts of plants. There is room for such men who, like Prof. L. H. Bailey, have begun at the bottom and become capable of editing a Cyclopedia of Horticulture. Speaking of tuberous Begonias reminds us again of the unreasonableness of the recent quarantine order issued by the Federal Horticultural Board, which shuts out imports of tuberous Begonias and many other plants. Tuberous Begonias may be raised from seed but it is a delicate and long process.

GEO. S. WOODRUFF.

"IS RED EMPEROR IDENTICAL WITH DOMINION?"

In the July number of THE FLOWER GROWER, K. Velthuys, Ltd., claims that *Red Emperor* is of Dutch origin. In a footnote to the article the editor says that evidence indicates that *Red Emperor* and *Dominion* are the same.

It is possible that an American variety *Red Emperor* is a synonym of *Dominion.* However, there is a Dutch *Red Emperor*, as, according to Cornell Extension Bulletin II, Gladiolus Studies III, Varieties of Gladiolus, there is a variety *Red Emperor* of Holland origin, introduced by Vos as *Meteor* and later re-named *Red Emperor* by the Haarlem Floral Committee. I suppose this change in name was made because there were already several varieties on the market called *Meteor.* At that, this Dutch *Red Emperor* may be a synonym of *Dominion*, or *Dominion* a synonym of *Red Emperor*, the priority of name to depend on date of introduction. Then again the Dutch *Red Emperor* may be an entirely distinct variety.

CHAS. E. F. GERSDORFF.
(District Columbia.)

PREVENTING GREEN FLY ON HOLLYHOCKS.

Dusting the leaves and stalks of Hollyhocks with pyrethrum powder or fine tobacco dust will exterminate the green lice or "flies" that sometimes infest Hollyhocks. A simple home remedy that usually proves quite effectual is to sponge or spray the plants with warm soap-suds into which *a very little* kerosene has been *well* stirred, say in the proportion of about one teaspoonful to two gallons of suds.

BERTHA BERBERT-HAMMOND.

We are in receipt of a circular of Woman's National Farm and Garden Association, 414 Madison Ave., New York City. Mrs. Francis King, of Alma, Mich., is President, and Miss Stella H. Webb, with offices at above address, is General Secretary.

The association was founded in 1914 as an organization devoting itself to the promotion of agricultural and horticultural work. It is a valuable assistant to those personally interested in the cultivation of flowers, and during the war it was a recognized factor in the increasing of food production. Its present aim is to continue this work by stimulating the farming and gardening activities of women.

Active membership costs but $1.00 per year. Branches of the association have been organized in different sections. Information regarding branches, rules for forming new ones, etc., may be obtained from the national office, 414 Madison Ave., New York City.

Those who issue catalogues should not forget to say a good word for THE FLOWER GROWER. Mention of the name and address of the publisher and any words of commendation which the grower sees fit to make, will be helpful. THE FLOWER GROWER deserves all the assistance that you can give.

A Visit to Kunderd's Gladiolus Farm.

By Rose Blair Marsh.

[*Written expressly for The Flower Grower.*]

IT IS JUST as well perhaps, in this journey through life, that sooner or later the conceit is taken out of us and we are made to eat a course of humble pie. H—— and I (H—— stands for Hubby, you know) have been so proud of our garden of Glads—so haughty towards our neighbors with the unnamed common stock. We were the possessors of forty-six varieties and as we walked among them we knew each name and each budding blossom was like a cherished child. And we had planned before another season to purchase at least five new ones so that in future bragging we could say we had over fifty kinds and so many hundred bulbs. But a recent experience has humbled us and caused our pride to take a decided tumble.

View on the Gladiolus Farm of A. E. Kunderd, Goshen, Ind.

On the 3rd of August, accompanied by some dear friends, Mr. and Mrs. J. W. Knipp, of Indianapolis, we started on a motor trip to Goshen, Ind., the home of A. E. Kunderd. We left at 8 o'clock of a perfect summer morning, the car was running smoothly and we reached Warsaw in time for luncheon, then on to the famous farm, reaching there at half past two, just as Mr. Kunderd was settling down into an out-of-door swing for a comfortable rest. Our welcome was a royal one, and almost immediately he proposed a stroll through the grounds. He even provided sun hats for the ladies, and when a man takes an interest in millinery (aside from the bills) you may know he is of a kindly nature and to be trusted.

How can I describe that walk? For hours we wandered through Elysian fields of glory. Such colors not even the rainbow rivaled. With something like five thousand varieties to gaze our fill upon, to feast to the soul's content, and all the time our host pointing out the beauty in first one and then another. It all seems like a bit of fairy land to me now as I write.

Then, too, his generosity. We came away so laden with blossoms we looked like debutantes at their coming out parties, at least resembling them as regards flowers. From Goshen we went down to lake Wawasee for the night and the Glads were carefully placed in water, as we were determined to bring them home and make our friends green with envy. There was also a better motive; to try and educate others to the joy of Gladiolus culture—the most wonderful flower in all the world today.

The next day was one of extreme heat; a hot wave had come on during the night, and we decided to start for home, at least we would be more comfortable in the moving car. For hours we carried those flowers, with an occasional remonstrance from the chauffeur, who objected strenuously to the back of his neck being rubbed by them, and my small son also put up a vigorous protest when his view from both sides of the road was cut off.

But as the miles grew longer and our arms more weary, we had to place the flowers across our laps and leave them to Fate, and it was a sorry-looking lot of Glads that I carried into the house at seven-thirty that night, after jostling over a trip of one hundred and eighty miles.

As soon as we were freshened up a bit we went for our usual evening stroll. But surely there was some mistake. Could this small patch be our vaunted garden? After gazing for a few minutes H—— remarked, "You know now what looking like thirty cents means." Subdued and chastened, we returned to the house. The next morning a bunch of bewildering beauty met our eyes. New buds had opened during the night and there before us were the Goshen Glads, almost as fresh as when plucked the day before. What other flower could stand such treatment and then revive?

Women are curious creatures, unsolved enigmas like the men. You would think that after such treatment we would be satisfied, but not so. On the way up we put our heads together and decided we would bravely ask Mr. Kunderd to name two of his choicest blooms for us. When we broached the subject he was not as enthusiastic as we could have wished—he was wary and not to be caught with chaff, and we came away guessing. But as I am a reader of human nature, I could see that he was open to suggestion, and any way, if there is anything in mental telepathy, when he lies down to dreams at night they are going to be disturbed, for running through them will be the cadence, "Name one for me, name one for me," until finally, in desperation, there will be put on the market some more wonderful flowers, bearing the names of two Indianapolis women.

The Moccasin Flower.

Most people who have roamed through the rocky hills of the Northern States during May or early June are familiar with the Pink Lady's Slipper or Moccasin Flower. These strange looking plants are orchids, and this particular kind inhabits moss-covered sand overlying rocks at considerable elevation above the surrounding country; also it may be said that they keep away from civilization as far as possible. Hogs destroy them and mice will eat the roots, which together with picking by people, probably accounts for their aloofness. Ordinary soil would not do at all, and they seem in their way as exacting as the hothouse orchids. The Pink Lady's Slipper (*Cypripedium acaule*) is the State flower of Minnesota, adopted back in 1893, and the first State flower of the first State to take such action. The flowers are borne singly on stalks 8 to 12 inches high. The plant prefers partial shade, that of the pine usually. The flowers are pink and are striking in appearance, resembling a huge spider. The leaves are very distinct also and even without the flower are attractive and interesting.—W. E. D. in *Rural New Yorker.*

Bound Volumes as a Reference Library.

The four bound volumes of THE MODERN GLADIOLUS GROWER (1914 to 1917 inclusive) contain more useful information regarding the Gladiolus, its culture, history and improvement than can be had from any other source. These four bound volumes also contain much useful information about other summer-flowering plants, but the Gladiolus is especially well covered. These volumes contain the W. W. Wilmore, Jr., articles entitled, "The Gladiolus Manual." All information is quickly available by means of an index in each volume, and those who are interested in studying the subject cannot afford to be without these bound volumes. We are furnishing the four volumes, postage prepaid, for $6 00. Furnished separately at the same rate, $1.50 each. Those who are interested in studying the practical and scientific features in connection with growing Gladioli should surely have a complete file.

The first bound volume of THE FLOWER GROWER, No. 5, is ready, price $1.75 postage prepaid. It is bound in uniform style with THE MODERN GLADIOLUS GROWER.

Facts and information are what THE MODERN GLADIOLUS GROWER and THE FLOWER GROWER specialize in. Literature covering the practical points of flower growing is not at all plentiful and the bound volumes are, therefore, especially valuable.

We hope to be able in our next issue to tell something about what is necessary to conform with Plant Quarantine No. 37 in the importation of foreign grown stock. From a casual inspection of the necessary blank, it does not seem that importation under this regulation will be extremely difficult for real novelties and flower stocks which are not easy of propagation in the United States.

The Opening of Flowers.

Willard N. Clute in *Gardeners' Chronicle.*

THERE is probably no more interesting chapter in botany than that which concerns the opening of flowers. The casual observer noting the general resumption of activity by the world at large as the day breaks is likely to jump to the conclusion that flowers follow the general custom of opening with the advent of day and closing as night approaches. It is true that many plants have this habit, but it is far from the rule among plants. In fact, the phenomena of the opening and closing of flowers, or *anthesis*, as it is called, are extremely complicated and call for the best efforts of the botanist to explain. Just as the form. color and odor of flowers have been modified or even developed with reference to pollinating insects, so the time at which flowers open and the length of time they remain in this condition is determined by many extraneous agencies, many of which may possibly not be known at present.

Not only is there much variation in the time at which flowers open and close, but the greatest diversity exists as regards the length of time the individual flowers remain open. Certain orchids, if unpollinated, may remain open for six weeks or more and in general the absence of pollination tends to lengthen the life of the flower. Tulips, Easter Lilies and the like may be made to remain open for some time longer than they naturally would if pollination is prevented. Contrasted with these examples is a little weed, common in cultivated grounds which is known as "flower-of-an-hour" because its blossoms do not remain expanded much longer than the period indicated in the common name. The blossom of the wild grape is still more remarkable, for just as the bud expands and the flower seems about to open the whole corolla falls off and thus the flower, though exposing stamens and pistils, can in a certain sense be said not to open at all. The garden plant called okra, though it ordinarily opens its flowers, may, on occasion, follow the example of the grape, and it is but a step from these to cleistogamous flowers like the summer flowers of some violets which entirely lack petals, and though perfecting much seed, always remain budlike.

In ordinary flowers some days usually elapse between the time the petals first unfold and the date at which they wither and fall from the plant. The corolla, in the least interesting forms, remains continuously open until anthesis is past, but in others the flowers may close temporarily several times in response to moisture, lowered temperature, darkness or possibly other things.

The opening of our early spring flowers, such as Crocus and Dog-tooth-violet, is frequently determined solely by temperature. If the temperature of the air and soil rise above a certain point they seem obliged to open. In fact, the same phenomena seem to govern the very production of such flowers and it has been found possible in many cases to ascertain the exact number of heat units necessary to produce a given blossom. It is a matter of common knowledge that the first flowers of any kind do not appear just anywhere. We must seek the earliest in the sunny and sheltered nooks where the required number of heat units are first received.

Temperature, however, may cause the closing of flowers, as we see in the case of the Waterlily, which, though it opens its flowers as soon as the day breaks, closes by mid-day. The same is true of Morning Glories, and possibly of other flowers that open late in the day and last until the next morning. That it is really temperature that causes the flowers of Morning Glory, Four O'clock and the like to close seems proven by the fact that late in the year, when the temperature has lessened, these flowers remain open all day and the Morning Glories become all-day glories.

The effects of light upon the opening of some flowers are very marked. Waterlilies, picked in the early morning before they have opened and kept in the dark will open whenever brought to the light. Thus one may decorate the house with full-blown Waterlilies at evening. The dandelion, also, is very sensitive to the light and refuses to open unless the day is sunny. Often a few hours of cloudy weather in the middle of the day will cause the flowers to close. Sir John Lubbock, experimenting with these plants, found that if a blooming dandelion in a pot was exposed to bright lamp-light it would remain open all night.

Darkness also apparently has an effect upon the opening of flowers, as in the Night Blooming Cereus and various other cacti which commonly do not unfold their petals until well along toward midnight. There are a host of other blossoms whose main period of bloom is during the hours of darkness. Many of these have common names that indicate the fact, as Four O'clock, Evening Primrose, Night Flowering Catchfly, Pretty-by-night, and the like. Flowers of this kind commonly remain open until the sun is well up and seldom open the second time.

That darkness like temperature, may have opposite effects upon different flowers is seen in the fact that it is usual for many blossoms to close as night approaches. This is so common a phenomenon that its very commonness gains it little attention. It will probably be difficult for one to name off-hand a flower that does close at night. Of this class, however, is the Day Lily, and so is the Daisy, whose name, literally the day's eye, is truly significant.

The amount of moisture in the air is also at times sufficient to influence the opening of flowers. The scarlet pimpernel, a common weed with tiny red blossoms, is known in some sections as "poor man's weather glass." Its flowers are so sensitive to moisture that they invariably close with the rise in humidity that betokens a storm and some hours in advance of it. The chickweed, common in cultivated grounds everywhere, is said to have the same habit. Many other flowers close in time to escape an actual wetting by the rain, while still others, though they do not close, are able to assume positions that keep the raindrop out of the flowers. The wild geranium turns its blossoms upside down.

It is doubtless a fact that many of the phenomena of anthesis attributed to temperature, light and the like may, in the last analysis, turn out to be in response to the visits of insects. For instance, many of the flowers that open at dusk do so because they are pollinated by crepuscular insects. Further support is given this theory by the fact that many of these give out a fragrance at dusk and at dawn only, when such insects are abroad. It is hard, however, to reconcile the behavior of the oyster plant and goat's-beard with any theory of adjustment to insects, for they close at exactly the time when insect visitors are most abundant. The goat's-beard, in fact, has received the common name of John-go-to-bed-at-noon because the flowers close so promptly at mid-day that one could almost set his watch by them.

It is a noticeable fact that flowers most affected by the agencies mentioned are all of the kind known as entomophilous, that is, insect pollinated flowers, since they open for the express purpose of receiving insect visits. It is likely that all the responses they make to temperature, light and the like are really made with pollination as the ultimate end in view. Finding, however, that these phenomena are so intimately related to the flight of insects that they can be used as guides they have apparently been adopted. If an insect, for instance, does not emerge from its cocoon until a certain degree of heat is received and does not roam abroad unless the day is fair, the flower that is adjusted to the same amounts of heat and light is certain to be in condition to be pollinated when the insect is flying. It may be possible to trace similar adjustments through all the variations in anthesis throughout the world of plants.

THE PEONY.

The Twenty Best Peonies.

In Bulletin of Peony News No. 7, issued by the American Peony Society, A. P. Saunders, Secretary, is a table giving the results of the sending out of rating lists on Peonies. About forty-five marked lists were returned and we have selected below the twenty with highest marks. While these twenty need not necessarily be considered the best 20 varieties, yet they are at least the best ones well known to the Peony enthusiasts throughout the country. Doubtless there are many fine varieties that would score equally well if they were equally well known.

The first column of figures is the number of votes cast for the variety opposite. The second column gives the average and the columns following give the votes in detail. The grading is based on 10 as the highest excellence, 9 of high quality, 7 to 8 of fairly good quality, and anything below 5 indicating a variety not worthy of cultivation. It will be noted that the twenty selected from the long list given have no votes lower than 7 which is sufficient indication of the high regard in which these 20 selected varieties are held:

	No. Votes	Average	Votes in Detail			
			10	9	8	7
Baroness Schroeder (Kel.)	33	9.1	13	12	6	2
Elizabeth Barrett Browning (Brand)	7	9.5	4	2	1	
Festiva Maxima (Miellez)	40	9.3	21	10	9	
Kelway's Glorious (Kelway)	9	9.4	6	1	2	
Lady Alexandra Duff (Kelway)	20	9.3	11	6	2	1
La Fée (Lemoine)	13	9.2	7	3	2	1
La France (Lemoine)	20	9.3	9	8	2	1
Le Cygne (Lemoine)	23	9.7	18	2	3	
Mad. Emile Lemoine (Lemoine)	28	9.1	11	9	8	
Madame Jules Dessert (Dessert)	19	9.4	10	6	3	
Martha Bulloch (Brand)	10	9.2	4	4	2	
Mignon (Lemoine)	11	9.1	4	5	1	1
M. Jules Elie (Crousse)	33	9.2	13	15	4	1
Philippe Rivoire (Riviere)	7	9.3	3	3	1	
Pleas' Jubilee (Pleas)	11	9.2	4	5	2	
Sarah Bernhardt (Lemoine)	23	9.2	10	8	5	
Solange (Lemoine)	23	9.7	15	8		
Therese (Dessert)	32	9.7	24	7	1	
Tourangelle (Dessert)	18	9.4	9	8	1	
Walter Faxon (Richardson)	19	9.2	7	9	2	1

The interest in Peonies has developed remarkably during the past season. The Peony is so old and well known that it is not difficult to convince flower lovers that they should grow some of the new and rare things. The improvements which have been made during the past few years have been as remarkable in Peonies as in other flowers and the end is not yet.

Tulips and their Culture.

[*Continued from page 111.*]

rieties of Tulips, all well adapted for out-door bedding purposes and the culture of all of them is very simple: The bulbs should be planted in the ground sometime between October and late December, (according to the latitude) about four inches deep and three or four inches apart, the earth well trodden and the bed protected with a layer of leaves, or other mulch. That is about all the care they require, and if they are planted as directed and at the proper time, they will send up in the spring fine foliage and beautiful flowers that are certain to command enthusiastic admiration.

Because they are so very attractive, Tulips, are in general use in public parks for out-door exhibitions. The beautiful Public Garden of Boston was, until this spring, quite famous for the grand spring-time displays of Tulips staged about the monuments and other parts of the grounds. Visitors from far and near enjoyed the beautiful annual Tulip show of which Bostonians were exceedingly proud; but this year their eyes were not gladdened by the expected exhibition of magnificent Tulips, as on account of the scarcity and high price of the most desirable varieties of Tulip bulbs, the Park Commissioner had decided to utilize for spring planting of shrubbery, the vacant beds where in previous years

> " Dutch Tulips from their beds,
> Flaunted their stately heads."
> —*Montgomery.*

In public parks and in the spacious show grounds of the wealthy, when one season of magnificent display is the first and only consideration, Tulip bulbs are promptly removed just as soon as the flowers begin to fade, and some other seasonable flowering plants put into the bed. Bulbs thus lifted before they have had time to ripen are valueless for a second season, making it necessary to purchase new planting stock annually, an item of expense where plantings are made on such a large scale, but in the average private garden such an extravagant method is not usual or justifiable, for if the bulbs are allowed to ripen properly, they can be depended upon to give excellent results for years. Under favorable conditions, bulbs of the Darwin strain, noted for their hardihood and perpetuity may be left in the ground three or four years before requiring resetting.

The bed in which the Tulips are left to mature may be used in which to grow Nasturtiums or some other annual of rapid growth. Asters that have previously been started indoors prove very satisfactory for planting among the Tulips, for while the bulbs are storing up energy for the following year the Asters will be preparing for a glorious autumnal display of bloom.

The American Gladiolus Society invites your membership. This oranization is entitled to the assistance of every Gladiolus enthusiast. See their quarter page advertisement.

Northwestern Peony and Iris Society.

The Mid-winter meeting of the Northwestern Peony & Iris Society will be held on the evening of Dec. 3rd, 1919, at the Ryan Hotel, St. Paul, Minn. A business meeting for members only will be held at 7:15 P. M., when election of officers for the coming year will be held.

Commencing at 8 P. M. an evenings program is in the course of preparation that will be of considerable interest to all interested in the Peony and Iris. This will consist of an illustrated lecture, in natural colors, on the Peony, papers on both the Peony and Iris also a round-table discussion in which anyone present desiring to participate will be welcome. We anticipate an enjoyable and profitable evening from what we know of the program already arranged.

A detailed report of the meeting will appear in these columns.

W. F. CHRISTMAN, Sec'y.

New England Fair.

There was plenty of competition at the New England Fair, Labor Day, in the Gladiolus section, the prizes offered by W. D. Ross bringing out five entries for the " best display."

Mr. B. Hammond Tracy was awarded first and staged a fine exhibit of flowers in baskets. Mr. Edgar M. Wilson, second, and C. W. Brown, third.

For collection of 10 new unnamed varieties, H. E. Meader won first and C. W. Brown, second.

On 20 vases single spikes, B. Hammond Tracy won first, A. J. Jenkins, second; Edgar M. Wilson, third.

Twelve spikes White—Edgar M. Wilson first, with *Europa*; B. H. Tracy, second, with *Europa*; H. E. Meader, third, with *Lilywhite.*

Twelve spikes Pink—Edgar M. Wilson, first; C. W. Brown, second; H. E. Meader, third.

Twelve spikes Yellow—B. Hammond Tracy, first, with *Schwaben;* Edgar M. Wilson, second, with *Golden King*; C. W. Brown, third, with *Klondyke Improved.*

Twelve spikes Blue—Ernest Adshead, first; B. H. Tracy, second; C. W. Brown, third.

In the Dahlia section, J. K. Alexander carried off the lion's share of the prizes, winning first for display and first for 20 large flowers and first for 20 Cactus.

C. W. BROWN.

Inadvertently we failed to give The Wisconsin State Horticultural Society proper credit for the Thimbleberry illustration on Page 101 of our October issue. This illustration was loaned us by our good friend, Frederick Cranefield, and originally appeared in *Wisconsin Horticulturist*, and we regret exceedingly the oversight in not giving proper credit at the time of publication.

Fifty Years Acquaintance with the Gladiolus.

[*Written expressly for The Flower Grower.*]

BY HENRY C. ECKERT.

(*Continued from September issue.*)

Continuing my observations on growing Gladiolus bulbs from bulblets: I received a letter from an Eastern grower several years ago, stating that growing Gladiolus bulbs from bulblets was a gamble, and from my experience in that line he was right. Two varieties I never had any success in growing from bulblets, are *Alice Carey* and *Loveliness*, if I can make ten out of a hundred grow I do well. Other kinds, *Mrs. F. King, Lily Lehmann*, etc., will come out well one season, to be followed next season by an utter failure, while other varieties, *Willy Wigman, Halley* and a good many more will be a full crop every season. The most successful experience in bulblet growing I had this year was with *Panama.* I have two strains of this kind, one American grown, the other imported from Holland two years ago; the flowers and bulbs are identical, mix them up and no expert can tell them apart. But the plant is different, it is a stronger grower, with taller luxuriant foliage, very vigorous, forces easier and it comes out of the ground a week ahead of the true American *Panama.* From three pints of this Holland strain, I raised 1640 bulbs of good size measuring from one-half to one inch in diameter, and will say here, that I have no stock for sale of this strain at present. Recently I read an article in a horticultural trade journal, recommending to beginners of small means, to start with bulblets but I would not give this advice, but would recommend to start with small bulbs, they are sure to grow, and if you have favorable weather, one-half inch bulbs will be one inch and over in one season.

We have in Southern Illinois not the best weather to raise Gladiolus bulbs, and can never compete with Northern growers, and I do not expect to make a fortune in this line, and for an income will depend on the sales of flower spikes. But one must have them early and late and keep out of the mid-season rush when flower-returns are below production costs. I warn the beginner not to expect 1000 flower spikes from 1000 bulbs planted. If 75% produce salable spikes one does very well indeed. I have planted in a small way a good many new varieties the last four years, but out of a hundred only four will, in my opinion, make a mark in the future flower trade, and I depend on the old reliable kinds, *America, Halley, Lucretia, Mrs. Francis King* and a few others. In conclusion about selling flowers, will say that you must study the markets, and not ship to an overfilled market.

(*To be concluded.*)

If you know of a friend to whom you think THE FLOWER GROWER would be an assistance and benefit, send us his name and we will submit sample copies.

Notes on Some of My Best Varieties of Gladioli.

By Chas. E. F. Gersdorff, (District Columbia.)

[*Written expressly for The Flower Grower.*]

I WAS INTERESTED in reading the descriptions of I. S. Hendrickson's list of twenty-five best Gladioli. I noted many of the newer varieties were not included. This led me to submit a list of some of the best in my collection. I have grouped them according to color, following roughly the color harmony system of B. F. Stalnaker:

WHITE.

Crystal White—(Baer) Pure white, central inferior petal has small, violet crimson blotch, base of petals deep in throat lined with violet crimson, tips of petals developing delicate pinkish lavender splashes. Three open at once. Strong, medium height, blooming in 77 days. Durable, wide open, triangular flowers 3 inches across. Spike in bloom 8 days.

Giant White—(Kunderd) Pure white, lower petals tinted ivory at base and in throat with wide crimson line through centers. Several open. Compact spike. Blooms in 80 days. Strong, dwarf. Durable wide open flowers, 3 inches across. Spike in bloom 9 days.

Morning Star—(Childs) Snowy white with large magenta-crimson throat and blotches on lower petals. Several open. Strong, medium height. Bloomed in 66 days. Durable, wide open flowers, 2 inches across. Spike in bloom 10 days.

Red, White and Gold—(Kunderd) Ruffled. Upper petals white, lower petals lemon yellow blotched crimson carmine. Several open. Separated on spike. Strong, medium height. Bloomed in 93 days. Durable, wide open round flowers, 2½ inches across. Spike in bloom 12 days.

YELLOW.

White Ivory—(Kunderd) ruffled, ivory white, lower petals shaded cream, blotched magenta carmine with throat of same color. Several open. Strong, dwarf. Bloomed in 87 days. Durable, wide open, round blossoms facing upward, 3½ inches across. Spike in bloom 10 days.

Large Buff—(Kunderd) Buff white, central lower petal blotched carmine on yellow ground, throat with small markings of carmine. Several open, compact spike. Strong, tall. Bloomed in 80 days. Durable wide open flowers, 3 inches across. Spike in bloom 10 days.

May Toy—(Spencer) Primulinus hybrid. Lower petals lemon yellow tipped salmon orange, dusted salmon orange in throat, upper petals salmon orange, lighter in throat, shading to lemon yellow edge. Flowers separated. Bloomed in 69 days. Strong, medium height. Durable, slightly hooded flowers, 2½ inches across. Spike in bloom 9 days.

Winetka—(Kunderd) Cream white, lower petals deep cream, with central line of deep rose and throat lined with same color. Slightly hooded. Two open. Separated on spike. Strong slender spike, medium height. Bloomed in 77 days. Durable triangular flowers 3½ inches across. Spike in bloom 6 days.

PINK.

Arizona Rose—(Kunderd) Pure deep pink shading lighter toward throat, lower petals blotched scarlet with deep blood red line through centers. Several open. Blooms in 97 days. Strong, dwarf. Durable flowers, wide open, triangular and 3 inches across. Spike in bloom 7 days.

Avalon—(Kunderd) Heavily ruffled, blush white, lower petals marked cream and blotched dark crimson, Two open. Strong, medium height. Bloomed in 74 days. Durable, heavy petaled, wide open, triangular flowers, 3 inches across. Spike in bloom 7 days.

Crinkles—(Kunderd) Intensely ruffled on edges, deep peach blossom pink, upper petals shading lighter in throat, lower petals and throat blotched blood scarlet. Several open. Strong, medium height. Bloomed in 87 days. Durable, wide open, triangular flowers, 3 inches across. Spike in bloom 10 days.

Gil Blas—(Lemoine) Salmon pink, buff or apricot throat blotched carmine. Compact spike, several open. Strong, medium height. Blooms in 96 days. Durable, wide open, triangular flowers, 3 to 4 inches across. Spike in bloom 6 days.

Gretchen Zang—(Austin) Drooping foliage. Flowers wide apart. Salmon flesh shading lighter toward throat, darker on outside of petals. Lower petals blotched deep coral red. Many open. Strong, tall. Bloomed in 96 days. Durable, wide open, triangular flowers, 3½ inches across. Spike in bloom 10 days.

Lucius Mendall Fuller—(Alexander) Delicate salmon pink splashed on edges deep salmon pink, lower petals and throat primrose yellow stippled salmon and buff. Two open. Strong, medium height. Bloomed in 78 days. Flowers of delicate texture but durable, wide open, triangular, 3 inches across. Spike in bloom 7 days.

Mary Stewart—(deGroat & Stewart) Creamy pink, deeper on tips, lower petals at base blotched crimson on yellow ground. Two open. Strong, dwarf. Blooms in 75 days. Durable, wide open flowers, 3 inches across. Spike in bloom 6 days.

Peachblow—(Cowee) Peach blossom pink lined violet. Several open. Strong, medium height. Blooms in 75 days. Durable, round flowers, 3 inches across. Spike in bloom 6 days.

Pink Perfection—(Hopman) Apple blossom pink, deeper on outside, white line through center of each petal, throat and base of lower central petal white striped magenta. Graceful spike, many open, strong, slender growth, medium height. Bloomed in 90 days. Durable flowers of delicate texture, wide open, 3 inches across. Spike in bloom 4 days.

Pride of Goshen—(Kunderd) Creamy pink shading to salmon flesh on edges and tips, crimson marking deep in throat, bases of lower petals splashed crimson on buff ground, ruffled. Several open. Strong, medium tall. Bloomed in 90 days. Durable round flowers 3 inches across. Spike in bloom 5 days.

Rose Glory—(Kunderd) Ruffled, rose pink blotched deep rose on lower petals. Two open. Strong, medium height. Bloomed in 72 days. Durable, wide open flowers, 3½ inches across. Spike in bloom 7 days.

Souvenir—(Brown) Cerise on tips shading to Heliotrope, lower petals blotched magenta, midribs white. Dwarf, slender growth. Bloomed in 86 days. Durable flowers of delicate texture, widen open, facing upward, 3 inches across. Spike in bloom 8 days.

Willnetta Curtis—(Gage) Pale fawn with delicate flush of pink on outside of petals, central lower petal shading to buff in throat with small lines of purplish crimson in throat. Several open. Strong, medium height. Bloomed in 84 days. Durable, wide open triangular flowers, 3 inches across. Spike in bloom 9 days.

Zaidee—(Spencer) Synonym Seedling No. 10. Delicate blush white, lower petals blotched yellow, striped lavender. Ring of deep red in throat. Branching spikes Strong, tall. Blooms in 78 days. Durable, wide open triangular flowers, 3½ inches across. Spike in bloom 8 days.

ORANGE.

Delight—(Kunderd) Graceful stem. Deep vermilion, lower inferior petals velvety burnt orange edged vermilion and a central line of darker burnt orange. Two open. Dwarf, slender. Bloomed in 84 days. Durable, wide open round flowers, 2½ inches across. Spike in bloom 8 days.

Pacha—Nasturtium orange, lower petals blotched canary yellow at base, stippled and spotted orange scarlet. Several open. Dwarf, slender. Blooms in 89 days. Durable, wide open triangular flowers, 3 inches across. Spike in bloom 9 days.

Pride of Lancaster—(Kunderd) Ruffled, salmon orange, lower petals blotched deep orange red. Two open. Compact, strong, dwarf. Blooms in 80 days. Durable, wide open, round flowers, 3 inches across. Spike in bloom 10 days.

Princess of Orange—(Kunderd) Synonym Kunderd's Orange. Deep orange, throat white, lower petals blotched white edged violet. Two open. Bloomed in 78 days. Strong, medium height. Durable, wide open, triangular flowers, 3 inches across. Spike in bloom 6 days.

RED.

Attraction—(Childs) Deep rosy crimson with white throat. Dwarf, slender. Blooms in 83 days. Durable, wide open, round flowers, 2½ inches across. Spike in bloom 10 days.

Black Beauty—(Stewart) Dark scarlet overlaid velvety black-red, outside and on extreme edges, lower petals cream at base blotched maroon. Several open. Dwarf, slender. Bloomed in 86 days. Durable wide open diamond shaped blossoms, 2½ inches across. Spike in bloom 8 days.

Challenger—(Kunderd) Rich velvety dark blood red, lower petals shaded slightly darker, small white throat striped dark blood red. Several open, separated on spike. Blooms in 91 days. Growth, strong, tall. Durable wide open triangular flowers 3½ inches across. Spike in bloom 16 days.

Chiffonette—(Kunderd) American Beauty Rose color. Several open. Strong, medium height. Bloomed in 68 days. Durable, wide open flowers, 3 inches across. Spike in bloom 9 days.

Fireking—(Childs) fiery or scarlet vermilion, dark scarlet throat. Four open. Strong, medium height. Bloomed in 75 days. Durable wide open flowers, 3½ inches across. Spike in bloom 6 days.

Negerfurst—(Pfitzer) Very dark velvety red overlaid on outside and on edges, thickly with fine stripes of black red, velvety, small white throat, lower petals blotched white finely striped. Several open. Strong, medium height. Bloomed in 86 days. Durable, wide open flowers, 3 inches across. Spike in bloom 9 days.

Rosella—(Cowee) Deep rosy lavender or light magenta, three upper petals having central line of white, lower petals cream nearly to tips, blotched and speckled carmine to throat. Two open. Strong, medium height. Bloomed in 84 days. Flowers of delicate substance, wide open, spreading, 3½ inches across. Spike in bloom 6 days.

Splendorra—(Kunderd) Ruffled, dark wine red, overlaid maroon black, outside of petals darker, whole velvety, lower petals with central line of bright blood red, with small white bases. Slender stem. Flowers separated on spike. Several open. Strong, medium height. Blooms in 93 days. Durable, wide open, triangular flowers, 3½ inches across. Spike in bloom 14 days.

Quartinianus—(Species from South Africa) Must be started in house about February 1 in order to bloom outside. Bright red with line of olive yellow running through the lateral petals, lower petals olive yellow edged red. Several open, loosely arranged on spike, spike often branching. Strong grower, medium to tall height. Bloomed in 169 to 171 days. Durable, wide open star shaped flowers, 2½ to 3 inches across. Spike in bloom from 8 to 12 days.

VIOLET PINK AND RED.

America—Delicate lavender flesh pink, lower petals blotched lilac with throat markings of carmine. Compact spike, several open. Blooms in 91 days. Strong, medium tall. Wide open, round flowers of excellent substance 3½ inches across. Spike in bloom 9 days.

Cinnamon Bear—(Kunderd) Ruffled, violet red with deeper throat. Strong, dwarf. Several open. Bloomed in 73 days. Durable, wide open flowers, 3 inches across. Spike in bloom 8 days.

Indianapolis—(Kunderd) Deep reddish violet splashed blue purple on edges, deeper throat and blotches of crimson on lower petals with central lines of white. Two open. Dwarf, strong, slender. Bloomed in 82 days. Durable, wide open flowers, 2½ inches across. Spike in bloom 6 days.

Magic—(Kunderd) Delicate lavender stippled pinkish lavender, shading to lavender blue at base of petals, inside and out. Lower petals blotched purple in throat. Graceful stem. Several open. Strong, medium height. Blooms in 69 days. Durable, wide open flowers, 2½ inches across. Spike in bloom 7 days.

Mary Fennell—(Kunderd) Lavender shaded lighter toward throat, small white line through center of each petal, lower half of lower petals deep cream lightly blotched and stippled lavender, circle of crimson carmine deep in throat. Several open, flowers separated on spike. Bloomed in 96 days. Strong, medium height. Durable, wide open flowers 3½ inches across. Spike in bloom 8 days.

Pink Pansy—(Kunderd) Alternate three large and three small petals. The small petals are white tipped and edged purple shading to deep purple red. The large petals are deep purplish red shading to purple with white bases. Throat and bases of all petals blotched maroon purple. Exterior, white tube shading to purplish red on edges. Many open, facing upward, star shaped. Strong, dwarf. Bloomed in 100 days. Durable, wide open flowers, 2½ inches across. Spike in bloom 6 days.

Purple Pansy—(Kunderd) Rich deep reddish purple, pansy-like throat. Lower petals with deep velvety purple blotches, throat and base of upper petals very light. Several open. Graceful spike. Dwarf, slender. Bloomed in 80 days. Durable, round tubular flowers, 1½ inches across. Spike in bloom 10 days.

Violet Beauty—(Kunderd) Ruffled, cerise violet, lower petals buff white at base blotched crimson. Several open. Strong, dwarf. Bloomed in 93 days. Durable, wide open, round flowers, 2½ inches across. Spike in bloom 6 days.

Youell's Favorite—(Kunderd) Slightly ruffled. Delicate lavender shading to lavender rose on edges and tips of petals, carmine flecks deep in throat, lower central petal at base creamy yellow striped crimson, white and crimson lines running parallel through the centers of other two lower petals. Several open. Compact spike. Strong, tall. Bloomed in 96 days. Durable, wide open flowers 3½ inches across. Spike in bloom 8 days.

VIOLET BLUE.

William Copeland—Interior of petals pale gray lavender, lower petals blotched mauve, with central lines running from carmine into yellow, outside pale gray lavender overlaid delicate mauve or blue lavender. Two open. Strong, dwarf. Bloomed in 77 days. Durable, wide open, round flowers, 2 inches across. Spike in bloom 7 days.

The Glad Philosopher's Musings.

The Glad Philosopher likes to experiment to a certain extent, but he is always ready to take advantage of the results of the other fellow's experimenting where it may tend to eliminate a chance of failure. "Experience teaches a dear school, but fools will learn in no other," was a motto that made an impression in my childish mind as it adorned the top line in my copy book at school, and later as a grown up, I have observed that it pays to investigate the experiences of others before trying out new ventures. That is why I buy books—and read them; that is why I take THE FLOWER GROWER—and read it; that is why I plant most liberally of those varieties of bulbs and plants that are highly recommended by others who have tried them out.

Agassiz used to say to his students: "Study to know what is; be courageous enough to say, 'I do not know;'" and Disreali wrote, "To be conscious that you are ignorant is a great step to knowledge." Not everyone is brave enough to say, "I do not know." I once knew a botanist of considerable reputation, and I frequently consulted him for information which he, like most learned men, was always glad to impart to an interested student. One day I asked him a question and was surprised when he quickly answered, "I do not know." Many a man knowing less than he, would not hesitate to venture an answer to my question.

It is wisdom to know that you do not know. The wiseacre has an opinion on every subject, and always states it with that emphatic positiveness that characterizes the ignoramus and unmistakingly brands the charlatan.

The fellow who knows it all is the one who gets oftenest "stung" in his business deals. A shrewd salesman is quick to perceive vanity and knows how to play upon it.

I am acquainted with one of those know-it-all fellows who never hesitates to discuss any question within the realm of human knowledge, and each expression of opinion is issued as an ultimatum. Marvel not when I confess to you that I value this man's opinons. They are valuable to those of us who know him, because knowing that he is invariably in the wrong, opposition to his advice is always right.

THE GLAD PHILOSOPHER.

National Bulb Farms, Inc., Enlarge their Plantings.

The National Bulb Farms, Inc., Benton Harbor, Mich., successors to the Michigan Bulb Farm, now have 267 acres under cultivation, over 90 acres of which are in Gladioli. They will grow not only Gladioli their specialty, but also Dahlias, Peonies and Hardy Perennials. The latter they have grown in a comparatively small way heretofore, but will greatly enlarge their plantings of the stock in future. The National Bulb Farms are capitalized at $100,000, stock fully paid in, and are doubtless at the present time, the largest Gladiolus growers in the United States, if not indeed in the entire world. The officers of the company are as follows: A. G. Pruyser, President; M. Pruyser, Vice-President; H. S. Gray, Secretary; F. L. Bradford, Treasurer.

The Mansfield Gladiolus Society.

Under the above title a new organization has been formed at Mansfield, Mass., and about twenty have signified their intention of joining. A very fine show was staged in August, over 100 varieties of Gladioli being staged. F. O. Shepardson is president of the society, John Zeestraten, vice-president; L. F. Howe, secretary; F. R. Sawyer, treasurer.

In addition to the beautiful display of Gladioli some fine displays of Dahlias, Delphiniums, Phloxes, etc., were made.

The flowers were sold at auction and the proceeds above the expenses of the exhibition were donated to the Visiting Nurse Association.

We hope that more organizations of this kind will be formed to increase and hold interest in the Gladiolus.

Catalogues and Price Lists.

H. W. Groschner, Napoleon, Ohio—Catalogue of Flag Irises, (Fleur de Lis.) Eight pages, nicely arranged, and with some useful information on the Iris. Mr. Groschner also has a leaflet with further suggestions for selecting Irises and the uses thereof. Also Price list of a selected list of varieties of Peonies.

John B. Humphrey, Logan, Ohio—Price list with good descriptions of some of the old standard and best new varieties of Gladioli. Priced by the dozen and hundred.

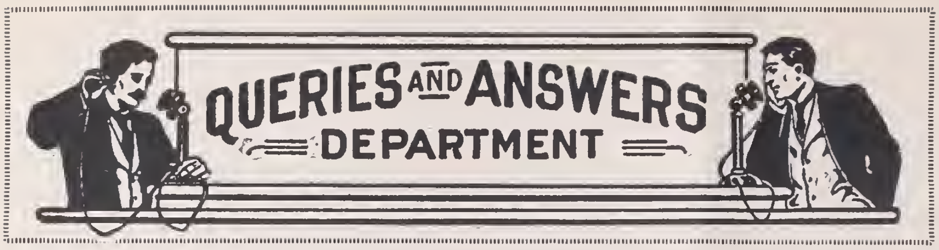
J. W. Seiler Co., R. F. D. No. 1, Ravenna, Ohio—Retail price list of some of the best standard varieties as well as the best new things. Prices singly and by the dozen.

Oronogo Flower Gardens, Carterville, Mo.—1919 catalogue and price list of the Narcissus, the Tulip, the Peony and the Iris, containing some very useful cultural information—16 pages.

W. E. Fryer, Mantorville, Minn.—1919 catalogue of Fryer's new Irises. All the Fryer originations with extra good descriptions. Eight pages and cover. Some useful suggestions are contained in the catalogue.

Chautauqua Flowerfields Co., C. Zeestraten, Prop., Bemus Point, N. Y.—Price list of Gladioli, Montbretias, Peonies, etc. Eight pages and cover. Select list of standard varieties and novelties including named varieties of Primulinus Hybrid Gladioli.

A. H. Austin Co., Wayland, Ohio, wholesale and trade lists of standard varieties and the Austin originations, including the Austin Big 4, and some of Mrs. Austin's newer varieties.



[This department of THE FLOWER GROWER is intended to be one of its most helpful and valuable features. All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication.]—EDITOR.

Planting Gladioli to Get Early Bloom.

TO THE EDITOR:—

I cut my first *Pink Beauty* this year June 28. To date have cut some six or seven hundred. Also a few *Chicago White* so far. But I would like to get them earlier. If the ground can be prepared in the fall, and a few rows planted about March 15th, when the season permits, do you think that would be safe, in view of the half-hardiness of the Gladiolus? And would it be well to cover the row for a few weeks, with straw or other mulch? I planted this year about April 2. I will much appreciate your opinion. N. W. G.

Answer:—Early blooming from the Gladiolus is difficult to get and the weather is almost the whole deciding factor. Last fall we had our garden plowed rather late, spreading first with half rotted manure. This spring the garden was again spread with manure more thoroughly rotted than what was used in the fall. Then the garden very deeply harrowed with a disc harrow. Our soil is sandy and plowed to a depth of ten inches which is extraordinarily deep. Fall plowing is probably the right thing anyway. Then as you suggest, you can get right at it and plant as early as the frost is out of the ground. One year we planted a few bulbs on March 19th, and that is pretty good for this Northern latitude. Usually we cannot plant here in Northern New York until the first half of April. The strange part of it is that these early planted corms do not bloom much ahead of those planted thirty days or so later; probably because the ground is cold and very little growth takes place except starting of roots. This starting of the roots, however, is an influence in giving superior bloom and even though these early planted corms do not bloom much ahead of the later planted ones, they will give finer and larger bloom.

In our opinion you would be perfectly safe to plant as soon as the frost is out of the ground, as there is comparatively little danger of frost hurting the sprouts after they get above ground. Think we have only had one year here when frost damaged Gladiolus sprouts to amount to anything, and then not enough to seriously hurt the ultimate growth of the plants.

Do not think that you will gain anything by covering early planted corms with straw or other material.

As a suggestion for securing early bloom it might be well for you to try sprouting some of the early varieties by moistening them slightly then putting them in a warm place before planting. Corms planted with sprouts an inch or two long usually bloom two or three weeks before those planted in dormant condition.

This year we did not start planting until somewhere about the middle of April, and our plantings extended up to the very first day of July. The most of our stock, however, was in the ground before June 1st. The first bloom is coming on this week (July 16), *Halley* and *Goliath*, both of which varieties had long sprouts when planted. *Pink Beauty* did not get into the ground until later and are not blooming yet.

Securing Early Gladiolus Bloom in Kentucky.

TO THE EDITOR:—

On March 25th, 1919, I planted 300 first size bulbs of *Pink Beauty*, *Halley* and *Chicago White* and begun to cut blooms by June 15th, all bloomed out by July 20th. I am after early bloom for next year. I thought I would take up these bulbs by Sept. 1st, as nearly all the foliage is now dried off, and cure these bulbs, then about Nov. 1st, replant them and protect them in severe weather by an application of manure or leaves. In your opinion would I get earlier blooms by this method or else wait until next year and plant as early as possible? I know of some people in our community who leave their bulbs in the soil all year and they have early flowers but very small.

F. D. D.

Answer:—The suggestion to plant in fall in Kentucky might possibly lead to earlier bloom than spring planting, but the chances are against it and there is some danger of the bulbs rotting in the ground during the winter. One year we tried this plan by planting in cold frames pretty well protected during the winter, but we did not get any earlier bloom than when planted in the open ground. We would recommend that you try out the scheme with only a few to begin with. It is an uncertainty, and even if you have success one year the result might not be the same the next. The quality of the bulbs will have considerable influence on the success or failure of the test.

It is, of course, perfectly proper to begin digging the early varieties by September 1st in your locality. In fact, if you planted as early as March you could begin digging early varieties and bulblets in August.

There is no reason for leaving Gladiolus bulbs in the ground during the winter even though they do not freeze, as they soon begin to crowd each other, and the result is very inferior bulbs, besides liability of getting foul with grass or weeds.

Clematis, Foxglove and Canterbury Bells.

TO THE EDITOR:—

"Will you kindly tell me the name of a Clematis, dwarf growing, and in June has blossoms like the *Paniculata*?

I have some thrifty Foxglove and Canterbury Bells grown from seed I planted last year, but no blossoms from them, either in shade or full sunshine. If I save them over will they flower next year?"

A. E. B.

Answer:—The vine in question is probably the summer-blooming Clematis *Montana* which, though it bears a larger flower, resembles the fall-blooming Clematis *Paniculata*.

Though Canterbury Bells (*Campanula Medium*) and Foxgloves (*Digitalis*) are biennials they sometimes bloom the third year. I would therefore advise the keeping over of your sturdy plants. Both Canterbury Bells and Foxgloves, will usually winter safely without protection, if the plants are not crowded and are in a high, well-drained, sandy situation. Should any protection from bleak winds seem necessary, a light covering of clean brush or an open box frame of boards will be sufficient. Do not make the serious mistake of using leaves which keep out the air and foster dampness and other conditions that promote the growth of a fungus that proves fatal to both Canterbury Bells and Foxgloves.

BERTHA BERBERT-HAMMOND.

Reviving Wilted Blossoms.

Many lovers of wild flowers have doubtless been annoyed by the apparent impossibility of getting certain beautiful species home in good condition. Among the flowers of the eastern States which wilt almost while one is plucking them, the dainty little Spring Beauty and the gorgeous but bashful Cardinal flower come to mind.

If one but knows how, one may freely gather these and others like them, and take them home in the thoroughly disreputable condition which they at once effect, with calm certainty of being able to restore them to their natural beauty. It is merely necessary to conquer the inevitable instinct to place them in cold water, and instead use the fluid piping hot, with more or less alcohol added, according to condition of the flowers and experience with the various species.

This method of restoration applies equally well to cultivated blossoms as to wild flowers.—*Scientific American.*

It may not be generally known that the native California species of the Iris is difficult to transplant, but such is the fact, and those who are interested in adding to their collection of Irises, will be interested in the advertisement of the Dean Iris Gardens in our advertising columns. They offer Iris seed which grows readily and the native California Irises may be had not only with greater certainty, but more cheaply in this way.

THE DAHLIA.

SOME FINE DAHLIAS.

I have never been a Dahlia enthusiast and have at home very little suitable room for them but I have tried a few varieties within the past three years, which have done well for me. I find there is a great difference in the matter of free flowering between different sorts, and the number of names in the catalog is so great that it is bewildering when one tries to select a few from so many "best." I prefer, generally, the "Decorative" class, having rather flat reflexed petals and long stems, to the show sorts, with close round flowers—but that is a matter of taste.

Two fine reds with good stems and very free flowering, are *Mina* (not *Minnie*) *Burgle* and *Souvenir de Gustave Doazon,* (what a name! *Gustave Doazon* will do). The flowers of these are easily grown to six inches or more in diameter. *Mina* has the darker stems and foliage and is a little more glossy crimson; the petals a little more glossy, narrow, pointed, grooved. For white, *Storm King,* a white show, is hard to beat for abundance of perfect flowers.

An immense clear yellow, decorative, is *Elsie Davison,* and among the near whites I know of nothing so beautiful as *W. W. Rawson.* The flower is most perfect in form, on long wiry stems and the whole flower has the most delicate faint shade of lavender on the edge of each petal and still more faintly suffusing the whole flower.

A new one, which I am told has made quite a sensation in the New York cut-flower market, is *King of the Autumn,* a Holland production. The flowers which may easily be had from five to seven inches in diameter, are of a peculiar orange or salmon color, flat and attached to very long, perfectly straight stems so as to face straight sidewise. The flowers of my plant are some of them over seven feet from the ground. With regard to the matter of long stem; one can help that by disbudding and cutting out lateral shoots that start out below where the buds are set.

A very beautiful purple decorative is *Frank L. Bassett,* though this and *John Wanamaker,* a fine pink cactus, are inclined to branch too much, needing to be thinned out.

It has been a hard season for Dahlias, which do not like dry weather or shade. According to the large growers, it is a mistake to plant early in the house; better to plant dry tubers outside late in May and so have them begin to bloom in August and September.

GEO. S. WOODRUFF.

To our Advertisers:

It is our intention that THE FLOWER GROWER should be in the Calcium Post Office at least two days in advance of the first of the month. Sometimes we are not able to do this from one cause or another. Advertising copy to insure submission of proof before printing should reach us by the 15th of the month preceding date of publication, and by the 20th of the month to insure insertion.

We know advertisers have surely been busy during the digging season and that help has been difficult to get, but it must be understood that we cannot delay the issue of THE FLOWER GROWER waiting for advertising copy. We surely hope that all advertisers will give their advertising copy careful attention and send it in early.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, Etc., OF THE FLOWER GROWER, published in accordance with the Act of Congress of August 24, 1912; Publisher, Madison Cooper, Calcium, N.Y.; Editor and Managing Editor, Madison Cooper, Calcium, N.Y.; Owner, Madison Cooper, Calcium, N.Y.

Known bondholders, mortgagees, and other security holders holding 1 per cent. or more of total amount of bonds, mortgages, or other securities: None.

(Signed) Madison Cooper.

Sworn to and subscribed before me this 10th day of October, 1919.

(Signed) Wm. J. Scott, Notary Public,
[Seal] Jefferson County, N.Y.
Commission Expires March 30, 1921.

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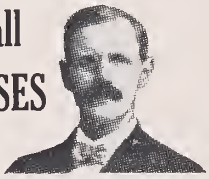

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My Catalogue and Cultural Guide for 1919 contains a collection of 45 of the best Peonies and 33 of the finest Irises.

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Gladiolus Farm, Boring, Ore.

PLANT the BEST Never Mind the Rest

Which are the best is the next question.

In my Fall Bulb List I have divided the varieties of Glads into two sections: first, those that are well known and of medium price; secondly, those that are new and rare and still high in price.

These sections are again divided into subsections, according to the colors.

Into the above divisions I have put the varieties that have done best for me in extensive trials. I do not claim to be the last authority on which are the best Gladioli, but I don't think that my selections are far wrong.

I found out something about Dahlias also, this last summer. Out of 100 varieties of Cactus Dahlias on trial, just six bloomed freely weeks ahead of the rest, without artificial watering and with only sparse cultivation.

This test means something to the thousands of flower growers in the great middle west where Dahlias are a crop about one year out of five.

Old customers will receive a copy of this List without a request.

If we are not yet acquainted, send me your name at once.

Raymond M. Champe
Walled Lake, Oakland County, Michigan

THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

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1919

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
Entered as second-class matter March 31, 1914, at post office at Calcium, N.Y., under act of March 3, 1879.

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Subscription price: Three years, $2.00; One year, $1.00.

A PLEA FOR SEEDLING PEONIES.

Suggestions for Growing.

[*Written expressly for The Flower Grower.*]

By Sarah A. Pleas.

THE PEONY microbe is not only infectious, but once you get it in your blood there is no getting it out. The more Peonies you get, the more you want, but instead of being a deadly ill, it gives new zest to life. It stands without a rival as a decorative flower in the home, the garden, the park, the cemetery, along the driveway, brook, lake-side and landscape.

Any amateur, or a child, may succeed equally well with the professional. In fact, professionals have not the time, but depend upon the flower-loving amateurs to grow and introduce the best of their productions. Secure fresh seed and stratify for spring planting. By mixing them in a box of sand, and exposing them to the elements over winter every seed will germinate when planted.

Seeds allowed to fall on the ground and remain over winter, even in grass or weeds, will come up promptly with the first warm days of spring and grow if not disturbed.

In cold climates we are apt to have a hard freeze later, which will kill all above ground. For this reason it is best to hold them dormant by a heavy mulch, or by placing the box on the north side of a building until danger is past, and the ground can be made in readiness to receive them. The sand is now sifted out and they are planted by line to facilitate close cultivation, by dropping the seed four inches apart, with one short-top Radish seed between to mark the row for early cultivation.

PEONIES OVERHANGING THE FISH POND.

Above Peony *Mary* and below *Mid-summer Night's Dream.*

The richer the ground the stronger they will grow. They make full growth, four to six inches in a short time. Cultivate as long as the vegetables, then by using a heavy mulch to keep weeds down and conserve moisture, they will require no further care for the season. Boards or old rails laid close alongside will serve the same purpose, so long as they have light and air and moisture.

Like red clover they are liable to be heaved out by freezing the first two winters. The freeze lifting the earth's surface, breaks their root and in settling back leaves the short, broken root to drop over on the surface and perish. I had wondered what became of them after the first year, until I happened to be out during a thaw, seeing many the size of a lead pencil, two and a half inches long lying on top of the ground. By pushing the broken end down well out of sight with my finger, *all lived.*

It is much the safest to give all two year old plants a heavy mulch before freezing. This will force the broken plants back as the earth settles. A board laid on them would serve same purpose, but a mulch from the stable annually will serve the double purpose of enriching the ground and keeping the weeds down. It is not the freeze that injures them, but their being left on top of ground. Since seedlings make their growth quickly, it is as well to hold them back by leaving the mulch on until freezing is over and the ground in good condition to be worked, when the mulch should be raked from over the seeds or plants to allow them to come up, when it should be forked into the ground.

They will grow and thrive without mulch, but the ground can scarcely be made too rich with well rotted manure and leaf mold, but fresh manure must not come in contact with the roots, but may be used liberally on the surface over winter. The richer the ground the stronger will be the plants and the larger the blooms.

A block of Peonies for permanent planting should stand three feet apart in rows four feet apart. A single row may be but two and one-half feet apart. The second fall from planting every other plant should be lifted and planted eighteen inches away. The third or fourth year every other row should be taken out. Radishes or other early vegetables may be grown between if ground is sufficiently rich even after blooming size.

By the fourth year the strongest will begin to bloom. If the planting is large there will be every color and shade in single, semi-double, full double and the little Japs, with no two just alike. Single pink and light rose predominate. There will be good, better and best, with possibly not one first prize winning bloom, but you will not have one but that will be, when at its best, prettier than any other kind of flower in the garden. Single Peonies have a grace and delicacy that the double blooms do not possess.

You may now lift out the least desirable kinds, replacing them with one from the end of the row, or by dividing some of the best. Never allow a vacancy. These rejected plants are set aside until you find time and some corner that can be brightened by them. Failing this, plant them near the fence along the public road where they will surprise and gladden the eyes of many a weary traveller.

Do not fear stock will injure them when thus planted. No domestic animal will eat nor bother them unless penned in and starved to do so. They will *thrive* where any weed will do well.

Connecticut Fair.

At Hartford, Sept. 1st, was staged the largest flower show ever seen in this city. The Floral Hall at the fair grounds was completely filled and an overflow exhibit was staged in the main exhibition hall.

The display of Dahlias was wonderful both as to size and quality.

There were a large number of entries in the Gladiolus section and the prizes were well distributed. The interest of the large crowd was centered in the collections of 100 vases of single spikes shown in the main hall. Many visitors were busy with pencil and paper taking down the names of choice attractive varieties, an indication of future business for the growers exhibiting. The first prize in this class was given to C. W. Brown, and E. M. Smith, second.

Vase of 25 spikes *America*, E. M. Smith, first, and C. W. Brown, second; 25 *Mrs. Francis King*, C. W. Brown, first, J. K. Alexander, second; 25 *Mrs. Pendleton*, Alfred E. Doty, first, N. Nelson, second; 20 Pink, except *America*, E. M. Smith, first, F. H. Pond, second; both showing *Panama*; 20 Scarlet, except *Mrs. King*, E. M. Smith, first, Coombs, The Florist, second; both showing *Velvet King*; 20 White, E. M. Smith, first with *Rochester White*, and F. H. Pond, second with *Europa*.

Five Crimson, E. M. Smith, first with *Empress of India*, C. W. Brown, second; 5 Scarlet, C. W. Brown, first with a seedling, E. M. Smith, second; 5 Yellow, N. Nelson, first with *Canary Bird*, Alfred E. Doty, second; 5 Lilac, J. K. Alexander, first, C. W. Brown, second, both with *Scarsdale*; 5 Blue, E. M. Smith, first, J. K. Alexander, second; both with *Baron Hulot*; 5 Dark Pink, E. M. Smith, first with *Independence*, C. W. Brown, second; 5 Light Pink, Coombs, The Florist, 1st with *America*, E. M. Smith, second; 5 Striped, C. W. Brown, first, J. K. Alexander, second.

Mr. Gurdon R. Scrivener, the superintendent of the department, is to be congratulated on the fine and successful exhibit which was largely due to his energy, and assistance given to the exhibitors.

C. W. Brown.

The Peony and the Sparrow.

By Mrs. Sarah A. Pleas.

Prompted by reading "The Rose and The Robin" in *The Pictorial Review*.

Once in my little garden
A Peony came to dwell
And because I was its warden
I called it Little Nell.
It laughed at summer showers
Proud of its fragrance too,
As it coquetted with the sparrows
And flirted in the dew,
Whilst the breezes softly whispered
We love you-u-u, we love you-u-u.

Then came one little sparrow
With heart so brave and true
Returning with each morrow
To sing and sip the honeydew.
He charmed my little floret
And builded in her crest,
Then brought his little sweetheart,
To occupy the dainty nest—
As he whistled and repeated
Sweet! Sweetery sweet! Sweetery sweet!

Since then my little garden
Is filled with Peonies gay.
Where all their little fledglings
With music fill the day.
And within my garden's center
Where these lovely Peonies sway
And the sunshine loves to linger
Their second nest is hid away,
As they whistle and repeat—
Sweet! Sweetery sweet! Sweetery sweet!

Plant Quarantine No. 37.

Readers of The Flower Grower will doubtless be interested in knowing what is necessary to conform with the regulations of the U. S. Department of Agriculture to enable them to import flower stocks under Plant Quarantine No. 37.

If we are correctly informed it is necessary to apply to the Federal Horticultural Board, U. S. Department of Agriculture, Washington, D. C. They will send necessary blanks to be filled in. The chief requirement is that the stock for importation should be either a "novelty," or "necessary propagating stock."

A "novelty" is defined as follows:

> "A plant variety, strain, type, or form, either recognized by the trade as a novelty and listed or described as such in catalogues, trade journals or other publications or duly and properly certificated by the originator or introducer."

"Necessary propagating stock" is defined as follows:

> "Stock of old or standard varieties not available in this country and imported for the multiplication of the plants in question as a nursery or florist enterprise as distinguished from importations for immediate or ultimate sale of the stocks actually imported."

In making application it is necessary to give quantity and designation of stocks imported, name and address of the exporter and grower, country and locality where grown and the name and address of person or persons to whom the plants are to be forwarded after inspection and release by the Department of Agriculture. The regulations further provide that a bond is required that the conditions set forth by the Federal Horticultural Board shall be fulfilled. Stock imported under permit as above to be planted and grown so as to maintain its identity and the board shall have the privilege of inspecting stock at any time and destroying it if necessary.

In case the stock imported is found to be diseased or infected, it is liable to be destroyed. The details of securing the necessary permit and the regulations and requirements do not seem to be especially complicated and it would seem that it would be possible to import under this arrangement stocks really needed for propagating purposes.

Chokecherry for the Garden.

Our common Chokecherry or Prunus virginiana, due to its suckering roots tends to develop into a shrubbery clump of its own, though with a little attention it can be grown either as a large shrub or small tree. It is not to be recommended for general planting, particularly not where a more cultured specimen of shrub or small tree can take its place, but to tidy up the ragged ends of a place it is sometimes about the only thing that will grow satisfactorily and persist. Its roots will push their way through almost any kind of a soil and once established the plant is drought resistant. *Left alone* a Chokecherry will sooner or later occupy all the ground available. Growing at its own sweet will a few of the innermost shoots develop into small trees while the outermost shoots grow as short canes that carry the foliage of such a clump down to the ground. If one has a mind to do it a Chokecherry can be grown as a well balanced lawn tree while the persistent suckers that keep springing up all about the base of the tree can be easily held down with the lawn mower. They do not injure the lawn. During its blossoming time, a period of about two weeks, a Chokecherry clump is really pretty and the fragrance is all pervading. When the fruit is ripe there is a feast for the birds, robins appear to be especially fond of it. This is a point in its favor not to be forgotten. As a means of screening an objectionable view, especially on poor soil that cannot be given much preparation and where subsequent care is out of the question, Prunus virginiana is to be recommended.—C. L. Meller, N. D., in *The Garden Magazine*.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

Next Year.

IT WAS MY good fortune not long ago to be present at the fall meeting of one of the large Garden Clubs of a nearby city. "Fall Bulbs," and "The Gladiolus," were the topics of the day, and after the speakers had outlined the cultures and given names of desirable varieties, a lively discussion ensued in which the words "Next Year" were heard many times.

"Next Year I hope to have a fine collection."

"I shall have the soil prepared better Next Year."

"Next Year I will use the hose more."

"I want more Gladioli Next Year."

They were enthusiastic and interested, and as I listened and observed, I thought of plans that I had made some thirty years ago. Of how I had grown a quantity of fine large bulbs of varieties that were the best in commerce at that time. I had learned their culture by experience, which at one time cost me the loss of a large part of my stock, however, I had been successful and now that I had mastered their culture I planned to sell the large bulbs and keep the small ones for growing on. With much assurance I offered them for sale and much to my surprise discovered that no one wanted them. It was a real shock to be told by one "prospective customer," a florist, that he did not like them, that the flowers were so small and the spikes so lacking in gracefulness that there would never be a demand for them, and that one could not make wages growing them. For a time it certainly did seem that no one wanted them, but I finally disposed of them, and then began the greatest plans that I ever made. Because I liked the flower and had faith in it I felt sure others would if they could but become acquainted with it as I had, and I also believed it could be improved, and in my plans for that "Next Year," I selected, for the first time, varieties for crossing in an effort to combine traits from which a better variety might result. I planned to grow the bulbs very close together so that when in bloom the bees could fertilize them, but when that "Next Year" came those flowers did not bloom at the same time: When No. 1 was in bloom, No. 2 was in tight bud, but there was another one of No. 2 variety in bloom in a distant part of the garden. I had planned to make that cross and not taking any chances on the bees, I pulled off an open anther and carrying it across the garden rubbed its pollen on the pistil of the No. 1 flower and made the cross that I had planned for the bees to accomplish.

From that time on, and now, one of my most important plans for "Next Year" is, what crosses to make, and where to plant for greatest convenience. Those of our own varieties that we wish to use were carefully selected when in bloom, their traits noted and recorded, and as soon as the catalogues of other growers were issued, searched the pages for something new to add to our trial garden to be used for crossing if worthy. Other growers have done the same and so great have been the changes in this flower that the *New Gladiolus* has won its way into the hearts of people so much so that it is acknowledged now to be one of the most useful and beautiful of cut flowers. Most excellent for florists' use.

It is always best to order early. People have awakened to the necessity of flowers in their gardens and for house decoration and the New Gladiolus has proven its value for such usages so well that enthusiasts are eagerly watching for "What's new in Gladioli," and the good ones are quickly taken up. To get ready for the best growth of Gladiolus bulbs "Next Year" it is well to have ground in preparation the previous fall. A well enriched sod plowed under, sowed to rye and again turned under in spring when full of sap, limed if necessary, makes an ideal mellow soil in which to plant, and followed by deep and thorough cultivation will produce large strong bulbs.

The black hardshell bulblets are slower to start into growth, especially if the covering has become very dry. To prevent this leave a little sand or soil mixed in with them when storing, and keep in a cool place.

The Gladiolus has come into its own, everyone wants them. We do not need to seek buyers now, they come to us.

One of the best Christmas gifts you can give to your garden enthusiasts is a box of Gladiolus bulbs. If they are not already acquainted with them they will thank you for calling their attention to them.

MRS. A. H. AUSTIN.

A French botanist, according to a Paris report, has arranged a clock face composed of growing plants and flowers. It is a large circular flower bed with twelve divisions, one for each hour of the day, in each division a plant growing which opens according to the time of day, and in this way it is possible to tell the time. The plants are arranged in the following order: Rose, Heliotrope, Water Lily, Hyacinth, Convolvalus, Geranium, Mignonette, Carnation, Cactus, Lilac, Pansy and Violet.

While this floral clock would doubtless be a very interesting thing and beautiful in its way, we doubt exceedingly if it would be possible to tell the time of day by the opening of flowers as stated.

Everlasting Flowers.

When the winter days creep on, and we are no longer able to gather blossoms from the garden with a lavish hand to adorn our rooms, when we miss the fragrance of the Rose and the beauty of many another favorite that served us well, when we are loth to cut flowers in the greenhouse that are too precious, then it is we remember certain other blossoms to which, comparatively, we attached very little value in the time of plenty. These, because they last some time when cut, we call, from want of a better designation, Everlastings. They embrace more subjects than most people suppose, and the bulk of them, if not all, can be grown within the precincts of most gardens. The surprise to me is that more who have no glass accommodation do not grow them, so that in these shortened days their rooms need not be utterly devoid of flowers.

It is worth while, then, to consider what may be grown in order to provide in the dreary months what I venture to describe as good substitutes for fresh-cut flowers. One can make a selection from three sources, viz.: (1) Hardy perennials; (2) half-hardy annuals; (3) biennials. Taking the perennials, we have Physalises—Winter Cherries, or Chinese Lanterns, so called owing to their bright appendages or pods that contain the fruit, and two suggest themselves—P. *Franchetti*, which is the larger and of brilliant red, and P. *Alkekengi*, with deep orange and smaller pods I prefer the latter, as the pods are rich and the color is enhanced if they are cut in late autumn, when the cold weather seems to heighten the tints. *Statice latifolia* bears branching panicles of blue flowers. As a companion to the *Statice*, but perhaps yielding lighter and more graceful panicles, I include Gypsophila *paniculata*, both the single and double forms. Of the two, for drying I have found the latter the better, as the numerous white rosette-like blossoms show up well amongst other things. The Globe Thistles (*Echinops*) have dense globular heads of blue. Eryngiums or Sea Hollies are worthy of consideration. In them we have several that come to our aid as winter decorators. E. *Oliverianum* has steely-blue bracts, E. *amethystinum* amethyst-purple bracts, and E. *alpinum* metallic-blue bracts. Catanches (Cupidones) are not very well known, but there is one, C. *cœrulea*, a blue Daisy-like flower, that is worthy of inclusion in a list of everlasting perennials. Turning to

HALF-HARDY ANNUALS,

we have the Helichrysums of various colors, Acrocliniums, with rosy blossoms, and Rhodanthes that are, perhaps, more popular as pot plants, with pink and white flowers, although they can be grown on a sunny border. One may contrive to have foliage that will help to embellish a basket containing representatives of the blossoms mentioned, the common Bracken being easily obtained and effective.

Flowers intended for winter use need to be gathered in a half-opened condition, so that when fully dry by exposure to the sun they will not drop. Loosely arranged in vases or baskets, these Everlastings serve a useful purpose and bridge over the time between the departure of the last of the autumn and arrival of the first spring blossoms, and to those who are dependent solely on a garden for flowers I can recommend them.—LEAHURST in *Gardening Illustrated.* (English.)

The season for digging Gladioli during 1919 has been a most disagreeable one in Northern New York and other growers have reported similar conditions in other places. It has been almost impossible to properly cure corms exposed in the open air.

The Flower Grower

PUBLISHED MONTHLY ON THE FIRST OF THE MONTH BY
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Vol. VI December, 1919 No. 12

> *" He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers."*—ZOROASTER.

Have a Flower Garden Bogey.

Did you ever see one of your well-to-do, portly business men driving a pebble about a vacant lot with a club for the exercise or sport of the thing? Undoubtedly no. Yet, this same man will pay good money for the privilege of spending a whole afternoon in the boiling hot sun driving a small rubber ball all over an eighty acre golf links and come back to the club house puffing and dripping, and if perchance he has equalled or bettered his previous record, it is indeed a Grand and Glorious day. And why? Because he has made play out of work and the Bogey did it. Without the Bogey our various golf links would be about as exciting as a country church yard.

Why not apply this idea to your flower garden? To have a good one you will have to spend several hot afternoons pulling weeds, cultivating and combating the various insect pests, all of which is work or play, depending entirely on the spirit with which you go about it. Right here is where the garden Bogey comes in. Instead of simply growing flowers, add a little zest to the thing by way of friendly competition with your own efforts, and make play out of your garden work.

Lay out your garden in the spring according to a definite plan and plant accordingly. Keep a detailed account of your progress from week to week and of the net results in the fall. Then, during the coming winter, see if you cannot devise some new plan which will give you better results, better and larger flowers. Use your previous record as your garden Bogey and see if you cannot beat it. Loosen up and enter into the spirit of the game and the first thing you know you will become so absorbed in the Bogey that you will consider it an infringement on your rights and prerogatives as the head of the family and master of the garden, if perchance your wife, or some other member of the household, should presume to touch it. All of which I can assure you will be greatly appreciated by the other members of your family, and particularly the younger ones, for on them, too often, the disagreeable tasks fall. Thus your Bogey will not only sustain and stimulate you in your work, but will filter on down through the whole family to the great joy and peace of mind of all concerned. If you find keeping a detailed record too irksome, then select the best garden in your neighborhood and use that as your Bogey and try to beat it. Get your neighbor into the game too and see if you can't make two flowers grow while he grows but one.

It is the Bogey that made possible the new varieties of Dahlias, the Ruffled Gladioli, the Spencer Sweet Pea, and put the fragrance into the Peony. The men who originated these and all of our other wonderfully improved vegetables, fruits and flowers, are no more fond of work than you are. If you have any doubts about this, present any one of them with a buck saw and a cord of good dry hickory and watch the results. But each of them has a definite plan, object, ideal, a Bogey, if you please that they are striving for, and that is the thing that sustains and encourages them in their work and makes possible the long hours, close application, and finally puts the thing across. Gardening is not work to such as these any more than a game of golf is to a golfer.

The average man has enough work keeping up with the everyday burdens of life without carrying it into his garden, and making that just one more darn thing after all the others. If you do not like the term Bogey, call it any name you please, but get the idea, that is the thing, and if you do, your garden trials and tribulations, together with the drudgery, weeds and insects, like the Arabs, "will fold their tents and quietly steal away."

OLIVER S. ANDRESEN.

Why Worry About Diseases of Gladioli?

It seems that those who undertake to grow Gladioli for the first time are quite likely to look for perfection and for this reason much more likely to find defects than those who have had long experience. It really amounts to little if a few corms are defective, if the average is of good quality. Don't expect that everything will be perfect in growing Gladioli any more than it is in other things.

We have been growing Gladioli for a dozen years or more and every year some varieties show defects and it is not the same variety each year either. The trouble may be owing to peculiar or unusual conditions in the particular spot in the garden where the defective stock is found. But as before stated, why worry? One can make oneself quite miserable by imagining troubles that do not exist or magnifying little troubles into large ones. So far as we know there is no disease of the Gladiolus which will not eradicate itself under clean and fairly correct cultural conditions. We, personally, have had stock from all over the world nearly, doubtless showing all the different species and variations of disease that are known to science. We simply forget it, and although, a certain portion is lost, those that do well seem to be clean and good, and so why worry?

MADISON COOPER.

Mr. Andresen's suggestion to have a flower garden "bogey" (which by the way means setting the pace for competition) is a most excellent one. Not only should we have a flower garden bogey, but we should have a work bogey, and not confine it to flower growing only. Production per capita is at a very low ebb in this country, in fact the world over for that matter, and a serious condition confronts us unless this is corrected very soon. While THE FLOWER GROWER does not aim to cover sociological questions, we believe that the situation is such that it should be brought to the attention of every one in a very forcible way, and we hope to have more to say along this line in future issues.

THE ROSE

The Propagation and Growing of the Rose.

Paper read by E. G. Hill before the American Association of Nurserymen at Chicago, 1919.

I TAKE IT AS AN UNUSUAL honor to receive an invitation from your society to address you on the subject assigned, for the reason that you have so many competent gentlemen within your own organization who could do this subject the fullest justice.

The Rose is pre-eminent among flowers. It still stands unrivalled in popularity, as it has from time immemorial; Sappho sang its praises and historians and poets paid homage to its beauty throughout the ages, and because of its firm hold upon the people, through sentiment and association, in love and in war, in sickness and death, in garlanding the marriage altar, in extending refreshment to friends, it has come to have a substantial pecuniary value. It takes little urging to persuade the owner of a home or the possessor of a plot of ground to invest in a planting of garden Roses.

With this standing of the Rose in the public mind it would seem a matter of real interest to the gentlemen of this association and of the nursery trade at large to find it not only interesting but profitable to increase your plantings of the Rose, and especially to disseminate the new and improved varieties.

Our country is so wide in extent, and so variable as to climate, that Roses suited to one section may be absolute failures in others, hence the need of supplying suitable sorts for given localities. The knowledge necessary to make such selection requires long and careful study and can be made complete only by personal experiment, and in this experiment many points, considered singly or in various combinations, must be taken into account; notably drainage, composition of the soil, exposure, temperature, humidity and the behavior of the variety in response to these conditions.

CLIMBERS AND WICHURAIANAS.

The Climbers and the Wichuraianas should be better known, and their individual characteristics fully appreciated, for they succeed in nearly all sections of the country except perhaps in portions of the Northwest and in the extreme South; our present varieties in these two classes are the pioneers of garden planting among the masses of our people. However, varieties more resistant to severe cold are needed for the Dakotas and that latitude. In the South the tendency to continuous growth is apt to lessen the vitality of the Rose, but in the Gulf territory and in California, the climbing Teas and Noisettes prove highly satisfactory. *Lamarque, Gold of Ophir, Solfarterre, Gloire de Dijon* and that wonderful Rose, the *Marechal Niel,* with the climbing sports of certain Teas and H. T.'s like *Kaiserin Augusta, Meteor* and others, give a fine choice of color subjects in trellis Roses.

These tender climbers suffered considerably in the terrible Winter of 1917–18, but this Spring they are again a mass of bloom and brilliant color, reinstating themselves in the favor of all who love Roses.

Some of the most satisfactory varieties in the hardy climbing section are *Dorothy Perkins* and *White Dorothy, Dr. Van Fleet, Tausendschon, Excelsa, Mary Lovett, Silver Moon, Bessie Lovett, Gardenia, American Pillar* and *Graf Zeppelin*; this list could be extended considerably to include other excellent sorts.

If I wished to make friends for the Rose—and incidentally for my own business—I should recommend to the novice the dwarf polyantha type of Rose for these invariably succeed even under adverse circumstances. They are hardy, wonderfully free in bloom and absolutely continuous bloomers up to the killing frosts about Thanksgiving Day in our Middle Western States; beginners in Rose culture should be urged to make their first experiments with these lovely bouquets of "baby" blooms. Among the true and tried are *Erna Teschendorff, Mme. Levasseur, Catherine Zeimet, Mrs. Cutbush, Clotilde Soupert* and *Mme. Gouchault.*

What the Rose loving public demands are the "everbloomers," and we may as well say at once that outside of the *Polyanthas* the "everbloomer" is an impossibility so far as the production of bloom during July and the first half of August is concerned.

TEAS AND HYBRID TEAS.

Among the Teas and Hybrid Teas, after the flush of June bloom is past, there invariably comes an interval of rest, lasting until cooler nights herald the approach of Autumn; then comes the great show of the Summer, lasting till it is cut short by frost. After a most critical scrutiny of the fine collections at the Trial Gardens at Washington, D. C., the trial beds at Dreer's Riverton (N. J.) place, John Cook's at Baltimore, Bobbink & Atkins' at Rutherford, N. J., and other noted collections, the following 25 sorts seem to contitute the very finest of the Hybrid Teas; in making up this list I have first of all considered constitution and vigor, combined with shapeliness of form, good color and free production of bud and bloom. Fragrance must be present for milady's bouquet, but is not so essential where the mass of color is the aim, though Rose perfume is a delight to the senses wherever its subtle fragrance is. The 25 H. T.'s for bedding are as follows:

Radiance, Red Radiance, Lieutanant Chauré, Hoosier Beauty, Gen. MacArthur, Gruss An Teplitz, Geo. C. Waud, Janet, Indiana, Lady Ursula, Lady Ashtown, Mme. Caroline Testout, Konigin Carola, Mrs. Wakefield, Christie Miller, Mme. Jules Bouche, Lady Alice Stanley, Killarney Queen, Ophelia, Mrs. A. R. Waddell, Mary, Countess of Ilchester, Robin Hood, Columbia, Los Angeles, Duchess of Wellington, Dorothy Page Roberts.

The varieties *Wm. R. Smith, Baldwin, Pink* and *White Cochet, Kaiserin Augusta Victoria, Antoine Rivoire, Lady Hillingdon* and *Melanie Soupert* will find a host of friends wherever climatic conditions favor their growth and development.

The Hybrid Perpetual class is better known by the men of your association than by myself, though I still have clear cut pictures in my mind of those magnificent sorts *Frau Karl Druschki, Paul Neyron, Ulrich Brunner, General Jacqueminot, Anna de Diesbach, Alfred Colomb* and *Hugh Dickson*; these are still widely known.

The Rugosa has a future for the hybridist and from the admixture of the blood of this rugged species will come beautiful varieties for the colder climes of Canada and of this country. This we may now anticipate with certainty, for are they not already arriving? The need of novelty, of new Roses, holds good with the nurserymen in only less degree than with the florists. At one of our exhibitions in New York City a prominent lady thus criticized the Rose growers: "You florists have compelled me for the past ten years to put before my guests, time after time, three, or at most, four varieties of cut Roses; why don't you give us a wider choice? What would you think if we women wore the same flowers in our hats year after year?" Happily the criticism has been felt and has produced a change at the source of supply, and now we have a greater variety and a heavier demand for our product.

If I might venture a criticism I would suggest that all the old wood cuts and the colored lithographs of bygone days be pronounced taboo. New half tones of Roses made from good photos attract and please, while the old stereotyped plates are anything but enticing and further the firm using them in its catalogue too often propagates or buys obsolete varieties to fit its old plates!

Trading in old varieties which should have gone into the discard is not treating the amateur fairly, especially the beginner in Rose growing, but happily many of your firms are putting out catalogues which it is a joy to handle.

The information possessed by the amateurs and especially the women amateurs of the country respecting the names and suitability of varieties for different purposes is most marked; this has come about through the publication of news items appearing in the press from time to time. "Say it with Flowers" is an awakener not only to the prospective purchaser of flowers, but to the commercial growers as well; it is absolutely necessary for men in the nursery and greenhouse business to be able to talk intelligently and intimately with their customers and prospective buyers.

The Rose test gardens being established in different sections of the country are proving to be a forceful method of bringing the better varieties of Roses to the knowledge of the man or woman who wishes to adorn the home with the finest and best in Roses. These test gardens also indicate poor and unsuitable varieties, thus avoiding much disappointment in selecting varieties.

I understand that you are raising a publicity fund for the spread of information respecting your products; this, with the publicity fund of the S. A. F. and O. H. will surely help both lines of trade, the nurserymen and florists; in fact, the propaganda by the two associations will tend to mutual benefit in furthering trade.

The American Rose Society deserves your hearty support, for with the spread of information regarding the Rose will come a desire for all kinds of ornamentals and evergreens. Every nurseryman should be a member of the American Rose Society; one of your number is its newly elected president, Robert Pyle, and the annual report of the society is replete with timely articles on the Rose in all its bearings.

ROSE TEST GARDEN.

I would especially call attention to the Washington Rose Test Garden. This is fostered and cared for by the department of Agriculture, and with its great variety of named Roses is an education in itself for any one interested. Here are to be viewed the newer introductions from the leading rosarians of Europe and America; this of itself is a matter of prime importance to those interested. If present plans are carried out, a great garden where Roses, grown in mass backed by the most interesting of the newer shrubs, will be one of the forthcoming features of interest to plantsmen.

Another item which should enlist your interest in the operations of the department is the highly interesting scientific work being accomplished by Dr. Van Fleet, under departmental control. He is cross-fertilizing hardy Roses and producing results that are as delightful as surprising, these varieties being disease resisting hardy varieties with showy flowers, will prove most valuable and welcome additions.

Another amateur who is devoting time and money to Rose culture and is accomplishing far-reaching results, is Captain George C. Thomas, Chestnut Hill, Pa. This gentleman is breeding on special lines, but his one great purpose is to give us perpetual

[Continued on page 129.]

WAYSIDE RAMBLINGS

WHAT IS A FAIR PRICE?

Mr. Spencer's discussion of fair prices for Gladioli in the October number of THE FLOWER GROWER is not conclusive on one important point. He thinks that difference in quality will account for the big difference in catalogue quotations. It might if the prices are quoted at random. But compare prices from lists issued by reliable growers, and the variation is very wide.

The following are taken from price lists of well known and reliable growers:

Loveliness, per hun., $8.00 to $15.00; *Europa*, $6.00 to $12.00; *Princeps*, $7.00 to $15.00; *Peace*, $3.00 to $7.50; *Pendleton*, $4.00 to $8.00.

The above is not a complete list by any means.

If the wholesale price per 1000 is the basis for estimating retail prices, there must have been a big difference in the wholesale prices from which the prices above quoted were calculated.

It isn't wholly a question of quality. I have paid just as much for poor bulbs as I have for good ones; and just as little for good ones as for poor ones. Neither is it altogether a question of size, for I have paid just as much for small bulbs as for large ones, the quality being the same.

I believe, though I can't prove it, that the wholesale price made by any grower is dependent on the quantity of stock on hand. It seems to me reasonable to suppose that a grower with 200,000, or more, of one variety is likely to offer them at a lower price than one who has only 25,000, in the absence of any central market, or clearing house, where prices can be regulated.

In Mr. Spencer's discussion of the subject he doesn't go back quite far enough. He says, "as the wholesale lists are received select four." Shall we select the four lowest or the four highest? How do we know that the four we select offer the fair price, and that all others are too high or too low? Even Mr. Spencer admits that "it does not follow that all low-priced stock is poor and all high priced bulbs of extra quality."

Quality alone cannot account for the prices offered. Quantity—supply and demand—could.

Except for this one point as to variation of price it seems to me that Mr. Spencer in the current number, and "P. M. T." in the July number, are in substantial agreement. Both agree that "it would be best to dispose of a large surplus to the wholesale trade," and I believe they are both correct in saying that the small surplus might properly be reduced, or a variety entirely closed out, at cut-prices, where the amount of stock on hand is not large enough to make it attractive as a wholesale proposition. Whether this is to be done by a "cut-price," a "special offer," a "bargain collection," or a "discount," is a small matter—it isn't a large enough transaction to upset the market.

As to what is a proper wholesale price, that is another matter, and, in view of the wide variations in different lists, one that needs more light.

THOMAS M. PROCTOR.

CRIMSON GLOW AND DOMINION GLADIOLI —COMMENTS ON OTHER VARIETIES.

Is Mr. Betscher's *Crimson Glow* the coming red, and is it better than *Dominion?*

I asked this question of several growers last spring and received a variety of answers, so there was only one thing to do, namely, plant a row of each and let the best flower win.

Crimson Glow was the first to show the green and the first to bloom. The foliage grew erect and vigorous while *Dominion* showed a tendency to droop. Both varieties produced tall straight spikes and very large, wide open beautiful crimson blooms, four to six inches across, well placed on the spike and of good substance.

Dominion is a very clear and beautiful crimson, a shade darker than *Liebesfeuer*, without a blotch, mark or stain.

The ground color of *Crimson Glow* is very nearly the same shade of crimson overlaid with a darker shade, and on the lower segments there is a blotch of velvety crimson.

The opinion of visitors to the field and of those who saw them in the Boston show was almost unanimous in favor of *Dominion*. In the show room it will score two to five points higher but in the field *Crimson Glow* gets there with a robust constitution and a good crop of cormels.

Mrs. Velthuys is a handsome crimson suffused with a darker shade. In size and habit it closely resembles *Rajah*, but I do not consider it quite equal in color.

I tried two new whites, *White Giant* and *L'Immaculee*, both of Holland origin. Blooms of the latter are pure white, medium size, with narrow pointed segments, spikes long and several flowers open at once; a good commercial variety.

White Giant is the largest pure white I have ever seen, the segments, also narrow and pointed, measure five to six inches from tip to tip. The spikes were short and carried only a few blooms but I am hoping they will do better next year. It is unfortunate that its name is so similar to Kunderd's *Giant White*.

Yellow Hammer is a tall vigorous yellow resembling *Niagara* but flowers are not as large. A few late ones the first week in October showed up remarkably well. I think it is better than *La Perle de Jardin*, which is of a different type, slender spikes with clear yellow blooms of medium size.

Wilbrink is a sport of *Halley*, no doubt about that, as I had flowers showing one or more segments of the *Halley* color, and the general form and size are the same. The color, a pale pink, is not as attractive to me as the original.

S. E. SPENCER.

SURGERY FOR DISEASED GLADIOLUS CORMS.

Last winter, while cleaning Gladiolus corms, it occurred to the writer to try surgery as a means of saving those in which visible lesions showed evidence of inherent disease. Each bulb was looked over carefully as it was being cleaned and any that showed diseased spots or suspicious looking blemishes were treated; first, by cutting away all the diseased part with a sharp knife, and then dipping the freshly cut surface into powdered sulphur. At planting time I was pleased to note that but very few of my bulbs showed any sign of rot, and all through the growing season there was a much smaller percentage of brown stalks than formerly, indicating less disease.

In order to thoroughly test out my experiment, I selected at planting time last spring, one hundred corms of *America* that had been surgically treated as above; some of them having had in the operation as much as one-fourth to one-half of the bulb cut away, and I feel sure that every one would have gone bad if they had not received attention. All through the growing season this block showed exceptional vigor; later gave good bloom; and when dug this fall I had one hundred and two of the finest large, healthy looking, plump bulbs I ever saw. Two only were diseased, and these badly so; and four had divided. The bulblet growth was unusually strong in both size and quantity. Whether the dipping in sulphur augmented the beneficial results of the surgery, or not, I do not know, and it will take further experimenting to determine; but as results proved, it certainly could have done no harm.

H. G. READING.

MARKERS FOR GLADIOLI.

I remember that some of our people have written about what they use for marking Gladioli in the field. I do not find anything which seems as good as the regular copper wired wooden tree labels. These are 3½ inches long and cost a $1.75 per thousand, painted on one side. I use the unpainted side the first year and sometimes, by marking out the first mark, use it the second year. Then I use the painted side once more at least and this makes as cheap a marker as the paper tags and much more durable. In attaching to the stem I divide the two wires and with both hands draw pretty tight and make two turns. When these mark-outs are not especially choice and are to be tumbled into a box together I give the wires an extra twist at the time of cutting off the stems to allow for shrinkage of the stem.

GEO. S. WOODRUFF.

WILBRINCK AND HALLEY GLADIOLI.

I notice on page 100 of the October issue of THE FLOWER GROWER, that Mr. Fred C. Hornberger has had a bloom of *Wilbrinck* sport back to its parent *Halley*, and he wishes to know if others have had a like experience.

Last spring I purchased 100 ¾ inch bulbs of *Wilbrinck* and nearly all bloomed. About 25% were as perfect *Halley* as I ever saw, and these may have been really true *Halley* and become mixed in the lot by mistake, but about 15% of the other blooms were "half-and-half;" that is, the petals were partly the *Wilbrinck* and partly the *Halley* color. This leads me to think that some at least of the *Halleys* were really *Wilbrincks* which reverted back wholly to the *Halley* color.

I have given this variety up in disgust.

HOWARD M. GILLET.

The Propagation and Growing of the Rose.

(*Continued from page 127.*)

blooming Roses of the Wichuraiana and Rambler types. The work he is doing is most interesting. Out of the six or seven thousand seedlings he is working with there will surely be forthcoming some remarkable types of new Roses. Some of his seedling Roses were the delight of the officers and members of the American Rose Society on the occasion of a recent visit.

PROPAGATION OF ROSES.

Nearly all the climbing types of Roses can be propagated from ripened wood made into long cuttings and planted in the open during early spring.

The placing of ground peat or dried muck at the bottom of the trench where the cuttings are inserted is a practice followed in Europe with good results, a sandy loam being preferable to heavier soil.

Greenhouse growing of wood for propagating purposes is the one method employed extensively by firms in the Middle West; in order to get the wood intended for propagation in suitable condition a close temperature with a humid atmosphere is sought; wood thus grown is placed in shaded frames with a muslin cover some 3 ft. or 4 ft. above the glass; about 12 in. of fresh horse manure is used as a base and on this is placed 4 inches of sand. The frame is kept close, the sashes not being raised for some eight or ten days. Cuttings thus treated, grown from wood prepared in the foregoing manner, root in about three weeks.

Winter grafting of Roses is practiced by the Rose growers on a large scale, where Winter forcing varieties are demanded. Manettis being used for this purpose. The stocks are potted in 2½ in. pots and when root action takes place they are splice-grafted with scions from green or growing wood, and placed in frames with bottom heat, the temperature ranging from 70° to 75° in closed cases, which are covered with sash or glass. A close, moist atmosphere is absolutely essential in order to have them unite; of supreme importance is the introduction of air so as to keep the roots from blackening. Of course, this method is only practical where glass houses are available.

Root grafting on small pieces of roots is a method employed by the nurserymen at Orleans, France; they use hard wood and place the grafts under glasses, shading them with a light wash on the side of bell next to the glass. The grafts are planted some 12 to 20 under each bell; then carefully transplanted when united and in growth.

Stocks for budding purposes are better known by your membership than by myself; their preparation and culture, I take it, is similar to the handling of fruit stocks.

A word as to the kind of stock. Manetti has had the lead in this country with only a moderate quantity of canina being used; while in Europe canina is extensively used, almost to the exclusion of other kinds of stock for budding.

The Rosa multiflora of Japan seems to have vitality, is a good producer of roots and is, I think, justly esteemed as one of the most practical and satisfactory stocks on which to bud Roses. A recent visit to two places where this stock is being extensively used would seem to put it in first rank as a stock on which to work Roses. The old *Gloire des Rosamenes* is being used quite extensively in California with gratifying results; in fact, I have never seen a more beautiful growth than Howard & Smith had in their Rose fields where this stock was used. Own root Roses vs. budded is a controversial field and while I have my own opinion as to their relative merits, I am inclined to think that for most localities the Hybrid Teas and Teas thrive best budded. In the South and in favored localities perhaps own-root Roses are preferable.

Pruning Rambler Roses with Hedging Shears.

If there is one thing which I loathe more than any other in the work of a garden, it is the cutting out and tying up of Rambler Roses. It is a job which I usually attempt to push on to my wife. She attempts to put it on to me. She will say, "It is a fine afternoon; those Rambler Roses ought to be tied up. They are falling all over the place." I usually shelve the matter by informing her that I have some important digging which must be put in hand. The end of the matter generally results in my having to do it. Then I get into a bad temper. All the thorny growths have to be laid clear of the supports. the old wood cut away, and the new tied in place. When cutting away the old wood I invariably cut some piece which has sent out at the top a beautiful new rod. Too late I see this piece and hasten to secrete it, for I know that my wife will point out the quantity of bloom which I have lopped off. Now, all this vexatious and annoying work is done away with. I light my pipe, go into the tool-shed, procure the hedging shears, and proceed to lop back those Roses just as I would a hedge. It does not matter whether the growth is new or old; off it comes. In a very short time I have the bottom of the ladder strewn with a tangled mass of what would have been blooming wood. As a rosarian my soul would have shrieked aloud at such desecration at one time; now I simply cart the *débris* to the bonfire without turning a hair. Why? Simply because I have found that all this tedious cutting out and tying up is not necessary. Blooms are produced in abundance on the Roses cut back in this way. It is true that after the operation the Roses look as if they would never bloom again. I learned this "tip" by accident. Near my house there was a particularly fine specimen of a weeping *Dorothy Perkins*. In its season it was simply weighed down with blooms. The following spring I chanced to look at that Rose, and found that its owner had cut the head back to about a foot of wood—new and old wood was all treated alike. I watched that Rose with interest during the time when it should bloom. There, sure enough, it was, a pink billowy mass. From that day I have adopted the same tactics, and always get an abundance of bloom.—CLARENCE PONTING in *The Garden*. (English)

Fifty Years Acquaintance with the Gladiolus.

[*Written expressly for The Flower Grower.*]

BY HENRY C. ECKERT.

(*Concluded.*)

In my previous article, I stated that out of the many new varieties I have grown on my farm, only four seem to me to have a future in the cut flower trade, but did not mention their names as I do not care to give free advertising, and furthermore I might be mistaken of their worth, having found out by experience from older introductions that some varieties do well several years, then go backward, losing vigor and deteriorate, and are useless to grow for cut flowers in a few years. I used to think a trial of a few bulbs would give a fair conception of their good qualities but have found out that the behavior of single plants are not always a sure criterion of their value if planted on a large scale, and will give an example:

Three years ago I planted one large bulb, *Queen Wilhelmina*, received from an eastern grower. It was planted in rich soil, the plant made a remarkably good growth, produced a long spike of wonderfully nice large flowers; color a beautiful apple blossom pink with creamy white centre. Judging from this single specimen, I thought it would be a fine variety for the cut flower trade, and increased my stock next season by buying small bulbs which did not bloom in the dry year 1918. Besides these I bought several hundred large bulbs. They came out well, producing strong spikes, but they were short and stocky, no good for the wholesale trade. A good many other varieties I had on my trial grounds promised well the first season, but after growing them several years they show their weak points, and that they cannot compete with the older commercial kinds.

After fifty years acquaintance with the Gladiolus I have learned a great deal in growing them, but have also gained the knowledge that there are a good many things that I do not know of this beautiful flower. As an example, why is it that some varieties do well the first year, and will be a complete failure the following season, then pick up again after several seasons, and then from poor scrubby bulbs, come out again in their first glory? About this curious behavior I will have more to say in the future. In conclusion will say that the Gladiolus has wonderfully improved since the advent of the old Gandavensis, and that the American growers have taken the lead in originating and introducing the most beautiful varieties in the world.

Don't forget that Gladiolus corms and other flower stocks offered in collections often are the cheapest and best way to secure some of the very best and rarest varieties. Indeed some of the finest new varieties are only put out by the originators in collections and are not obtainable in any other way.

Northwestern Peony and Iris Society.

WITH the constant addition to the trade lists of new and meritorious varieties, it behooves us to keep on the lookout if we would possess the very best that is offered. I mean by this that we should acquaint ourselves with the various lists of varieties being offered of the newer sorts of both the Peony and Iris in order to be up to date. This particularly applies to those who are making extensive collections of the very best productions procurable at the present time. While the proportion of new varieties offered is infinitely small compared with the vast number of seedlings that are discarded as worthless, there are many that are offered under alluring, captivating descriptions that have no place with the many desirable and dependable sorts now in cultivation.

Those who are interested in propagating new varieties should be commended for their untiring efforts and patience, for it requires an unlimited amount of both in order to experience the pleasure and satisfaction of success in the fullest measure. Many failures are attributable wholly to lack of perseverance and the ability to continue in the face of repeated failures.

There is a certain amount of pleasure combined with the above requirements in the anticipation of creating something that will outshine anything now in existence, and this aim has been approached and fully realized in many cases within the past few years. Progress along horticultural lines is just as pronounced as it is along other lines of endeavor and each succeeding year finds us trying to excel the year just passed. Progress is ever marching on and while it may seem to us an utter impossibility to approach some of the floral creations of to-day, I venture to say that they will be and in many cases excelled. With higher class stock to work with there will be a resultant gain in progeny, which is evidenced by some of the very recent additions to the Peony and Iris lists. Each year we find a number of varieties that are strangers to us as they have only been in existence a short time, or at least have not been offered on the market, doubtless having been carefully observed for some years by their originators to determine their worth. Oft times, I am compelled to say, some of these new creations are short lived, due to varying causes. The originator may not have tested various soils and climatic conditions before his final judgment of worth was passed; again many have tried their hands at hybridizing who are not entirely familiar with the many beautiful and high class varieties now in cultivation and unwittingly overpraise their production as a result. I regret to say that sometimes the greed of gain enters in and overshadows everything else and we are enticed to part with our good money later to find that we have been misled.

I would not for a moment discourage anyone's efforts in their attempt to create new varieties but am always glad to encourage them in every way, as I am a great admirer of anyone who is striving to better things that now exist that succeeding generations may profit thereby, but I think it behooves each one of us to use extreme caution and not be too enthusiastic over our creations to the end that the market may not be flooded with inferior, disappointing and commonplace varieties.

During the past season I have seen a number of very promising seedlings both of the Peony and Iris, but the originators are men of extended and broad experience in the work and are critically testing the most promising, (having had them under observation for several years) before they will attempt to disseminate them.

A number of our members are working faithfully and earnestly propagating new Peonies and Irises. The public is not aware of their activities in this branch of endeavor, but these silent, earnest workers have a goal in mind and some day their efforts will meet with deserved success. Recently I received a letter from one of our members in Nebraska from which I quote as follows:

"I am raising seedling Iris and have had quite considerable success. I have the nearest red I have ever seen; some near pink, and one a great improvement over *Her Majesty;* one as large as *Amas;* one pure white, no markings except a yellow beard, and many others as large as *Trojana.* My brother, also a member of your Society has many new ones, too, also extra fine Peonies; some prize winners I believe."

To substantiate his statement he sends me a splendid photograph of his Iris beds and one of his Peony beds. Both of these pictures fully demonstrate that he is having splendid success with his undertaking. I do not know how many years his efforts have been centered toward propagating new varieties, neither do I know that he has offered any of them for sale or has any desire to do so, but I am of the opinion that he is still working toward a higher goal and will some day be rewarded with greater success than he may now have achieved.

Most of us are conversant with the work of Mr. Willis Fryer, of Mantorville, Minn., who is enjoying splendid success in creating new varieties of Irises. Another of our members, Miss Grace Sturtevant, of Wellesley Farms, Mass., has created some wonderful new Irises that I trust will soon be more generally known in this section of the country. Mr. Bertrand Farr, of Wyomising, Pa., has added a number of splendid Irises that can be classed with the best. In far away Connecticut we have a member who is actively engaged in assembling a collection of the best Irises to be found in cultivation, several members in Ohio and Pennsylvania who have assembled the finest collections to be found anywhere, and from some of these Iris fanciers we will doubtless hear of splendid work along the line of hybridizing in the near future. There are several others I might name in this connection who are diligently engaged in improving some of the standard varieties now offered. The late Rev. C. S. Harrison, deserves great credit for the work he has done in making both the Peony and Iris more generally known.

The many years of patient waiting that are necessary to propagate the Peony leaves a more open field, but a far more difficult one to venture into. Results are not so easily obtained, as in many cases several years elapse before the final stamp of approval can be placed upon a superior seedling. There are but few of us who have not heard of or seen the Brand creations. It took nine years of patient, careful observance before *Martha Bulloch* was found worthy of bearing that distinguished name. It will take many times nine years before this variety will have to bow to a superior of its type, if indeed it is ever approached. *Elizabeth Barrett Browning, Frances Willard, Mary Brand, Judge Berry, Chestine Gowdy* and a score of others, all splendid sorts, are Mr. Brand's creations. *Victory Chateau Thierry* and *Myrtle Gentry* are among his latest contributions. These will be on exhibition next June and they both bid fair to rank with the best of the Brand creations.

Mr. E. J. Shaylor, of Auburndale, Mass., is universally known as one of the greatest hybridizers of Peonies in the United States. His *Mary Woodbury Shaylor, Georgiana Shaylor, Mrs. Edward Harding, Milton Lockwood, Shaylor's Dream* and many others of high class have been brought into existence through his skillful work.

Prof. A. P. Saunders, Secretary of the American Peony Society is doing splendid work in the line of creating new varieties. His intimate knowledge of all first class Peonies places him in an enviable position, and any seedling that he may deem worthy of disseminating must possess exceptional merit in order to receive his stamp of approval. I have had the pleasure of seeing a number of his seedlings and was much impressed with their beauty. His work should be watched with considerable interest as he is an expert at hybridizing and understand that he is working to produce a full yellow Peony. He is scientifically working along lines that should enable him to achieve this result. There is a fortune awaiting the lucky one who produces a full double yellow Peony equal to some of the good standard varieties of today.

With the temporary embargo placed on foreign importations to a considerable extent, this restriction will doubtless result in renewed activity toward improving existing varieties in this country. Let us hope that there may be many who may achieve results equal to those accomplished by John Richardson, H. A. Terry, Mr. Hollis, Mr. Rosenfield, Mrs. Pleas and many others who have added so much to our list of first class varieties. Some growers make the statement that it is impossible to improve upon the varieties already existing. There is the possibility of a few having reached the acme of perfection. It is hard indeed to realize how it would be possible to improve upon *Le Cygne, Therese, Solange, Martha Bulloch* and a few others, but who had the temerity to suggest a few years ago that the airship would be a commercial possibility. Even though they cannot be improved upon, they can possibly be equaled in some other type of flower, or color or combinations of color that are now unknown in the Peony offerings of today.

W. F. CHRISTMAN, Sec'y.

American Peony Society.

We are in receipt of *Bulletin of Peony News* No. 9, August, 1919, edited by Secretary A. P. Saunders, Clinton, N.Y. It consists of sixty pages and in addition to giving a full report of the proceedings of the society for 1919 and a write-up of the annual flower show in Prof. Saunders' customary thorough way, it reports other Peony exhibitions and shows, and gives a complete roster of the members of the American Peony Society.

Weed Seeds in Soil.

I wrote recently of weed seeds in soil and the long time such seeds will remain dormant when buried in the earth. I have just had another interesting example of this in my own garden. There is a rough Grass bank sloping to a moat which runs partly round the house. This spring I stubbed out a very large Blackberry of a poor sort and planted some Lavatera Olbia, tall hybrid Verbascums, and other rough perennials likely to hold their own as the Grass grew back over the soil I had bared in removing the Bramble. Near by I planted two or three standard Apples and Plums in the Grass, leaving four feet beds round each. A thick crop of scarlet Field Poppies and Charlock has sprung up all over the site of the old Bramble, and also round each fruit-tree. I know the ground to have been under turf for 30 years, and no fresh soil was introduced in turning it up this spring. Before that time the ground was a farmyard. So it seems pretty clear that the Poppy and Charlock seeds must have lain buried under the turf for 30 years and sprung up directly it was dug over.

This gives me an idea with regard to the transport of seeds. Some seeds travel very badly. Many of the New Zealand plants, for instance, are extremely difficult to raise from seed sent from their native home. Would it not be worth trying the experiment of mixing such seeds with a handful of moist loam and then packing the loam in an air-tight tin and sending in that way? On arrival the loam might be spread thinly on a box of soil and the seeds it contained germinated in the usual way. In the case of very valuable and specially difficult seeds the tin box containing the seed-soil mixture might have an outer covering of asbestos or some non-conductor of heat in order to keep the soil packing at an even temperature. Or the package might be put into cold storage during the voyage. Such a precaution as this soil packing would only be worth trying in the case of a few valuable seeds which have hitherto been found difficult to germinate when imported in the ordinary way. Burying in soil certainly seems to have the effect of maintaining the germinative power of certain seeds for an almost indefinite time.—CLARENCE ELLIOTT in *Gardening Illustrated.*

The Glad Philosopher's Musings.

What an unreasonable, domineering demon is prejudice. Prejudice against a person blinds our discrimination and prevents our seeing any good in him, or recognizing the worth of any of his talents. "Can there any good thing come out of Nazareth?" reflected a prejudice that almost cost Nathaniel the glory of apostleship. "Deliver us from prejudice," is a prayer it were well to offer frequently.

It denotes a noble character when a person is noted for always speaking well of others—overlooking or forgetting all their faults, for "there is so much bad in the best of us" that faults may be quite easily discerned, and the "knocking" habit is easily acquired.

Jimmy King was one of those royal good fellows that might be termed a "good mixer." Deservedly, he had a host of friends, because besides being genial and courteous, he was never known to speak evil of anybody or see anything but the good in everything. For a great many years he had been manager of the Opera House, but a change in the ownership threw Jimmy out of his position. Shortly after his retirement a show played at the Opera House that was absolutely without a single redeeming feature—so punk that the audience guyed the players. At the Elks' club that night after the play the boys were discussing the badness of it, but Jimmy, who had also attended, uttered not a word. Finally, one of the party said, "Jim, in all your experience, did you ever see anything quite as rotten as that performance?" "Well, now," said Jimmy, "That set scene in the third act impressed me as being a fairly clever piece of scene painting."

I know people who are deterred from enjoying success in growing certain flowers because of some mistaken prejudice. So many do not care to grow Peonies because they claim the season of bloom is too short, when by judicious selection of varieties they could have a full month of enjoyment with that most exquisitely beautiful flower. Some will not take up Rose culture because somebody who neglected his Roses made a failure of Rose growing. While it is true that no flower can give more disappointment than the Rose if neglected, no flower rewards with greater satisfaction the care and attention it exacts. Some refuse to grow the Gladiolus because the bulbs have to be dug and cared for every autumn and replanted every spring; but the enthusiasm this lovely flower inspires makes such work truly a labor of love.

Then we have the prejudice of color. Some people cannot see much beauty in a bouquet of mixed colors, when as a matter of fact, a mixed bouquet is seldom inharmonious, and need not be so at all, if magentas are omitted or used sparingly and white predominates. Some might even exclude *Purple Glory* from their Gladiolus collection and miss its majestic beauty because they do not like a dark red flower. It is well that these prejudices and idiosyncrasies appear contradistinctively as preferences in some natures, as in the old, old story that grandfather used to tell of the Dutchman that ordered his barn painted, and having been asked by the painter what color he desired it to be, replied, "Vell, make it any color so it's red."

THE GLAD PHILOSOPHER.

Soot as a Fertilizer.

We have a good many questions from market gardeners who ask about the value of soot as a fertilizer. Some of our people live near manufacturing towns, and the factory chimneys, when cleaned out, yield quantities of this black material. The soot is deposited on the chimney from the smoke arising from the coal or wood. It contains small particles of unburned fuel, and in these are found small quantities of nitrogen, potash and phosphoric acid. There is no standard composition of soot, although some samples run high in nitrogen. English gardeners make heavy use of this material. It is good to use on cold, heavy land, as it darkens the color of the soil and thus increases its power to hold the heat. In England soot is considered a stimulant, somewhat the same as nitrate of soda, although of course with very much less nitrogen. The English gardeners use it early in the season, scattered between the hills or drills, and well worked in with hoe or cultivator. Such crops as onions, cabbage, and root crops generally, respond quickly to an application of soot, and it has some value for keeping down certain insects, such as cutworms, wireworms and grubs. It is not a good plan to use lime with the soot, as the effect of this mixing would be to drive off part of the ammonia. After the soot has been worked into the ground, however, the lime can then be added with good results, and this combination is said to be useful for fighting insects. Some gardeners make great use of soot as a liquid manure. In preparing this liquid, a peck of soot is put in a weighted bag and suspended in a barrel of water, where it is permitted to soak for a week. The black liquid produced in this way makes a good application for the garden. In England soot is bought and sold by measure, and not by weight. It is said that the heavier samples are the poorest, as they are mixed with brick and mortar—*Rural New Yorker.*

Although there is quite a wide divergence in the prices which appear in the price lists and catalogues already received, yet we note that apparently there is a great tendency toward uniformity, and this surely is a healthful symptom of the trade. One thing is sure; those who offer flower stocks this year at low prices are going to sell out so quickly they will not be a factor in the business by mid-winter.

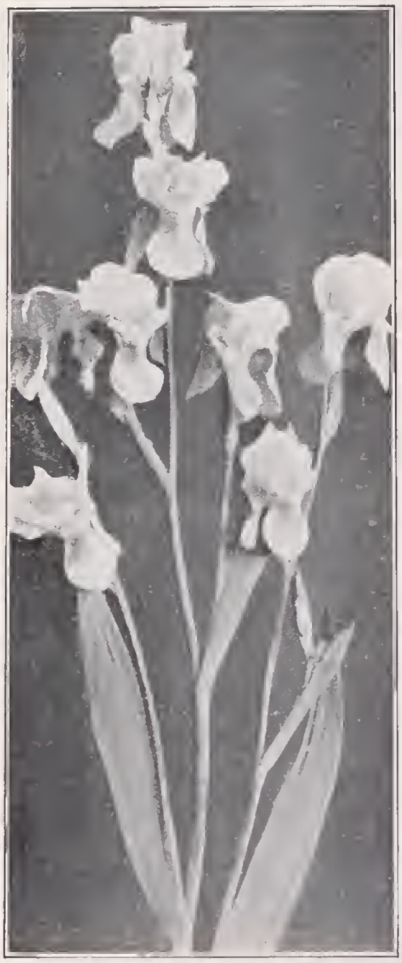
The editor has been searching for information on the use of charcoal as a fertilizer. No exact facts are available so far, but a clipping from an Australian paper gives some suggestions which we expect to print next month. Anyone having experience with charcoal should tell us something about it.

THE IRIS.

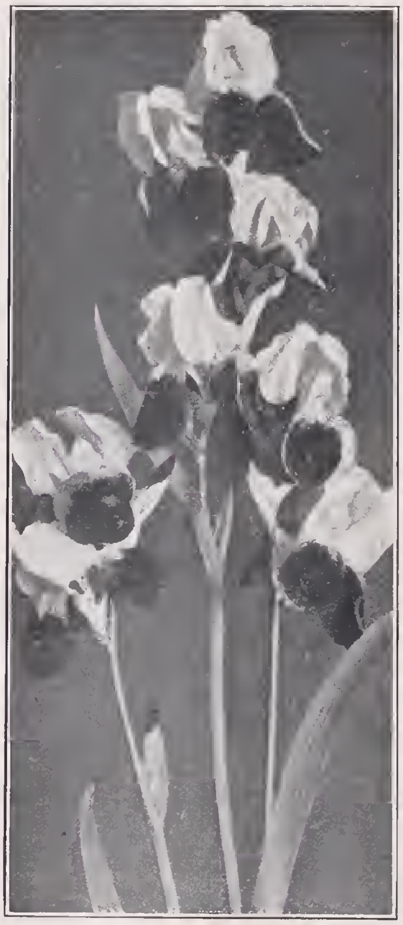
The Modern Bearded Irises.

Bearded or "Flag" Irises have made enormous strides during recent years, even when the novelties of today are compared with those of not more than a decade ago. That Irises of this section have long been associated with hardy flower gardening in this country every gardener knows full well and thousands of gardens amply testify. That they have played an important part in the embellishing of our gardens in May and June, were of unquestionable beauty and utility in other ways, admired because of a flower delicacy and freedom of blossoming which no other hardy plant possessed in like degree, are facts also that are freely admitted. Yet, with so many good attributes to their credit, in the light of recent introductions and the gulf which now exists between the old and the new, these aforetime favorities but occupy a position of mediocrity today.

Having been for many years more or less intimately associated with Irises I have watched with interest the onward march of these modern varieties, a development—or set of developments since it is not in one direction only—which, while leaving the older sorts well in the rear, was destined to place the newcomers on a pedestal of their own. Though that fact might have been patent to the most casual observer, I confess it did not appeal to me in all its fulness till I saw them in the heyday of their flower beauty in Messrs. Wallace's nursery grounds at Colchester in June last. Flag Irises I had seen before, had both grown the plants and culled their spikes by the thousand, still such a wealth of novelty, such evidences of evolution and epoch-marking in the main, constituted a feast indeed, and the picture—or pictures, for there were many—was not a transient one. The plants, indeed, were in their battalions everywhere, their forests of spikes dowered with handsomely proportioned, richly-colored flowers demonstrating their superiority over their older brethren. It was a great sight, the beds of these waist-high, occasionally breast-high, plants towering aloft, effective in the picture and impelling admiration on every hand by noble bearing and freedom of blossoming. For such enhanced beauty in this essentially summer-time flower gardeners of all classes, amateur and professional alike, owe a lasting debt primarily to so zealous a worker among Irises as the late Professor Foster, and not less so to Mr. Bliss, the most eminently successful Iris hybridist, perhaps, we have ever known. Notable among the many seedlings raised by Mr. Bliss are *Azure, Benbow, Clematis, Phyllis Bliss, E. H. Jenkins, Morwell, Knysna, Dimity, Sweet Lavender, Margaret Moore, Gulls,* and *Dominion,* the last-named, if it must be appraised on the basis of the five guineas asked for a plant of it, unequalled among them all. It is, however, of the epoch-marking type, unique in its flower expanse, richness of coloring, and texture of petal, and in either direction will take some beating. Briefly put, it is a *Black Prince* glorified at once, a tribute and a clue that should appeal to those who have as yet not seen it.



Iris—*E. H. Jenkins.*



Iris—*Azure.*

Some may pertinently inquire why and in what directions are these modern bearded Irises so immeasurably superior to their older brethren. To this the answer is easy. That they are so in many ways, though most of all in giant stature, freely-branched habit, picture-making effects, and handsomely proportioned flowers are incontestable facts. Formerly all bearded Irises bore their flowers on short footstalks closely clustered against the stem of the plant. This did not make for good effect. The coming of *Trojana,* a noble species of four feet high having freely-branched stems and handsomely fashioned flowers, however, gave the hybridist his chance, with the result that we have today a truly marvellous array of modern Irises characterized by majestic bearing, branching, fan-like spread, and freedom of flowering, of which a few years ago we had not dared to dream. Some of the new comers branch right to the ground. *E. H. Jenkins* is a case in point, as may be gathered from the fact that at Colchester in June I counted some three dozen flowers and buds on a single spike. And it is not alone, *Morwell, Sweet Lavender* and many others being similarly endowed. To these fine attributes, too, are wedded those of increased beauty, size, and the color of the flowers, hence the gains are considerable. Naturally, however, they are greatest among the blue, lavender, purple and kindred shades into which that majestic Iris, *Crusader,* and bluest of the blues, *Lady Foster, Lord of June, Miranda, Rodney* and others akin readily group themselves.

Nor is it in these shades alone that progress is so marked; rather is it more or less general, affecting every section—the variegata forms, frilled plicata forms, bronzed and crimsoned squalens, with others all in turn. It is, however, more than usually welcome in what, for convenience, might be termed the red pallida forms, and of which *Caprice* and *Mme. Pacquitte* were among the older exponents. Today, however, these are entirely out-classed by the rich wine-red of *Ed. Michel,* the lovely *Rosalind,* and the exquisite *Margaret Moore, Mrs. Alan Gray, Lohengrin* and *Isoline* following in paler though not less beautiful tones. It is, however, the startling effect of the rich reds first named, their exalted presence and fine contrast amid the almost overmastering richness of the blues, violets, and purples that impressed one so and caused them to be written down as unequaled among the best. *Phyllis Bliss,* inimitable in orchid-mauve, *Alcazar,* supreme even among the giants, *Archeveque,* surpassing all in the richness of its coloring, and *Prosper Langier,* of shades akin to the half-century-old *Jacquiniana,* were others among the rest.

Apart from these, the illustrations today will afford readers a better idea of the improved characteristics to which reference has been made, while they are also of two distinct types. *Azure* is one of Mr. Bliss' seedlings, and a bed of it as I saw it in June was not surpassed by any for wondrous freedom or picture-making effects. It is not of the giant class as these moderns go, but is remarkable for the stout texture of its petals and the richness and outstanding rotundity of its intensely rich violet-colored falls. The standards are clear lavender-blue. The other variety, *E. H. Jenkins,* also raised by Mr. Bliss, resulted from crossing *Trojana superba* and *Princess Beatrice,* and is a sister seedling from the pod which gave *Morwell.* From this cross it is interesting that two main types appeared, self-colored like *Morwell* and bi-color like *E. H. Jenkins.* In flower freedom and branching habit the latter is, perhaps, only equalled by *Sweet Lavender,* which is also a bicolor. Both are notable for the fan-like spread of their inflorescences and the low-down branching characteristics obviously inherited from *Trojana,* characteristics which, even though they had stood alone, would still have constituted improvements of which any raiser might feel justly proud, since it is mainly attributable to these that flower freedom is produced and garden effect secured. To these, however, are wedded even greater attributes, not least of them a flower beauty much enhanced and a constitution fitting them for the purpose we would have them serve.—E. H. JENKINS in *Gardening Illustrated.* (English.)

Hardiness of the Iris.

"Speaking of the tenacity of the life of an Iris root: Last August a friend of mine gave me eight small clumps of Iris. They came to me wrapped in paper, and I placed them on the top shelf of an outside veranda, as I was not ready to set them out that day. I forgot all about them and they were exposed all winter, their only protection being a newspaper. I ran across them the first part of May, and was going to throw them out when it seemed to me that they did not look dead, although the leaves were entirely withered. I set them out in an odd place, and much to my surprise the entire 8 clumps lived, and three of them bloomed (a purple variety.) They have now grown to be nice clumps, and have been transplanted in a little bed by themselves.

If I did not know this to be a fact I doubt if I would believe it. Eight months out of the ground and exposed to frost and cold and still live.

A NEW JERSEY IRIS GROWER.

Christmas Cactus Culture.

BY BERTHA BERBERT-HAMMOND.

[*Written expressly for The Flower Grower.*]

One of the most satisfactory and beautiful plants for the winter window garden is the Epiphyllum Truncatum which, because it usually comes into flower at the holiday season, is popularly known as the Christmas Cactus. The lovely, wax-like, bright rose-red flowers are borne at the extreme ends of the long, spineless, drooping branches and seem limited in profusion only by the number of branchlets. The "weeping" character of growth of the graceful branches makes the plant ideal for use in a swinging bucket or hanging basket.

To be successful in the culture of the Christmas Cactus requires no great care. In fact, the plant is more likely to suffer from over attention than from neglect. When properly potted in sandy, well-drained soil and given a rather sunny position the plant will demand little care. Frequent watering during the winter months should be avoided as too much water will cause the soil to sour and the roots to decay eventually resulting in the death of the plant. An application of weak lime water once or twice a year will tend to keep the soil sweet. When the branches of this Cactus begin to wilt and turn yellow, it is a danger signal that should be heeded at once. The roots of the plant should be examined. If they have not been badly injured by too much moisture, repotting in new sandy soil will probably save the plant but if the roots are found to be in an advanced stage of decay, heroic treatment will be necessary. Cut off such branches that appear in good or even fair condition, plunge into sand and endeavor to root new plants.

As the Christmas Cactus is apt to bloom more profusely when partially pot bound, it should not be disturbed until the over-crowding of the roots interfere with the growth of the plant or clogs the drainage. When this occurs, shift the plant into a pot of the next larger size.

For summer treatment plunge the potted plant out into the garden in a sunny situation, so that the rim of the pot will be entirely beneath the soil. Unless the season should be a very dry one, the plant will require practically no attention until it is time to take it indoors before frost. The buds begin to form in autumn but these

"Dainty buds conceal their color
Until Santa is on his way;
Then they open, brighter, fuller,
Growing fair for Christmas Day.
How we watch them counting, summing
Up the hours their growth consumes;
For a glad, glad day is coming
When the Christmas Cactus blooms."

—*Mary E. Van Zandt.*

Fertilizing Chrysanthemums in Greenhouse.

If you can get fresh cow manure to feed the 'Mums with it will be one of the best foods for the plants obtainable. When properly used it will help to make a fine stem, heavy foliage and large flowers and the average grower who doesn't need exhibition stock will, to my mind, run less chance in giving his plants an oversupply of food by using liquid cow manure than if he employed any other fertilizer. This is not to say that there is nothing else as good or even better and plenty of 'Mums are grown to perfection without cow manure, but for all that, wherever it can be had good results can be obtained by its use. A good sized wheelbarrow full for a 50 gallon barrel will give you 150 gallons of liquid and if left in a rough or coarse bag you won't get any of the solids in the manure to spoil the good looks of the bench. This is meant for the smaller grower; the larger one and the specialist have other means of applying the manure, but with the florist, who has just a few benches of 'Mums it doesn't take long to give them a feeding and if with the average plants this is applied now once a week until the buds start to show color you are sure to get good flowers; that is, if the plants are in good condition at the time you start feeding them. As I have repeatedly said it is the wrong thing to try and get into shape a sickly plant or one stunted through neglect all Summer by heavy feedings applied now at the eleventh hour. It can't be done, but good plants are benefited by food and should have it. Light applications every week is the best way to give it to them.—FRITZ BAHR in *Florists' Exchange.*

Catalogues and Price Lists.

Brand Nursery Co., Faribault, Minn., a most artistic catalogue descriptive of Brand's American Peonies and a selected list of the new and standard varieties from other growers. Also Irises and hardy shrubs. Every Peony grower should have one.

A. B. deGroat, Bath, Steuben Co., N. Y.—Retail catalogue and price list. Some rare varieties are listed with brief descriptions and retail prices.

THE DAHLIA.

Lifting and Sorting Dahlias.

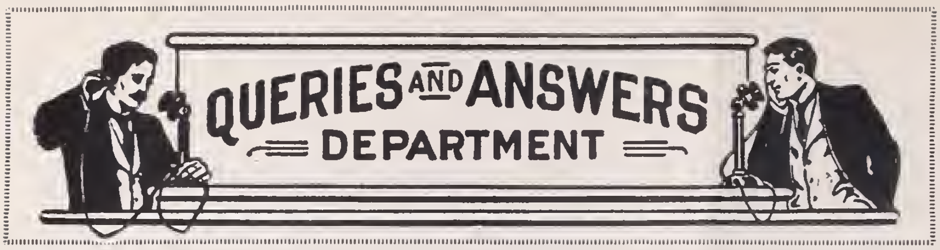
The bulletin of the American Dahlia Society has the following to say about the care of Dahlia roots:

After the plants are cut down by frost in the autumn, it is customary to allow them to stand for a week or two, on the theory that the roots may thereby perfect their ripening for the winter and that they are better off in the ground than they would be in any cellar. However, if there is much tendency to throw up suckers or new shoots, it is probably better to dig the roots at once, as the new shoots are likely to weaken the roots by drawing away more than they give back. And one must remember that it is from the crown or the stem base rather than from the roots that the shoots for next year are to come and that this crown might be damaged by a freeze that would not injure the lower-lying roots themselves.

When the lifting time comes or a few days before, the stalks should be cut close to the ground, using a large knife, sickle, or bush scythe, and making a smooth clean cut. As a root with a broken neck is commonly useless, much care should be exercised in lifting the roots. It is best to use a spade and to drive it down for twelve inches or so all the way around at a distance of twelve inches or more from stalk, and then lift the whole mass carefully by forcing the spade deeply under the center. It is an advantage if two persons can work together and lift at the same time from opposite sides. Though not so important as the preservation of the neck, it is also advisable not to cut off the tip of the fleshy root, as it is from this end that the first and most vigorous fine roots are likely to come the next spring. Moreover, cuts and abrasions of the surface give the rot-producing fungi a better chance for attack.

After lifting, it is well to let the roots dry off for a few hours, with a view especially of removing any excess of sap or moisture from the pith or hollow of the stump, as this loose fluid might prove a culture medium for the spores of moulds and perhaps might prove injurious in other ways. Some Dahlia experts, in packing away roots for the winter, turn the stump downwards so that any excess moisture can drain out. This seems to work well, though in turning the clumps upside down, there is more danger of breaking the necks of the roots than in leaving the clumps in the more natural upright position. It is not necessary or desirable to shake off all the adhering soil before carrying the roots to the cellar, as any naturally adherent earth appears to help prevent drying out and shriveling during the winter.

In a cellar without furnace heat, Dahlia roots usually keep all right when stored away on shelves or in boxes or barrels without any special covering. In cellars with a furnace it is usually better to wrap the clumps in newspapers or to cover them with sand, coal ashes, or with fairly clean soil, from the field or garden, but soil containing much decaying organic matter is to be avoided for this purpose. When the roots are covered in this way and when the containers are placed as far away from the furnace as is consistent with safety from freezing, the roots commonly come through the winter in a vigorous and plump condition. However, roots that have shrunken much and show no buds or sprouts at planting time are often viable, as may be determined by test. If sprouts have started and are more than two inches long, it is usually best to break them off and depend upon new buds for the future plant. Long cellar-shoots commonly develop into weak hide-bound stems.



[This department of THE FLOWER GROWER is intended to be one of its most helpful and valuable features. All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication.]—EDITOR.

Poor Germination of Bulblets.

TO THE EDITOR:—

A large percentage of my bulblets failed to grow in the spring, and I thought of putting them in boxes in the fall and burying them in the ground below frost line over winter, the same as potatoes are sometimes stored. Your reply through THE FLOWER GROWER will be greatly appreciated. P. G.

Answer:—Some varieties of bulblets germinate but poorly at best and the utmost care is necessary to secure results which are at all satisfactory. Your plan of burying below frost might be advisable some years, but not so good in other years, as sometimes the ground freezes but very little, and your bulblets might be warm enough in the ground to rot or sprout during such a winter. So far as we can see you ought to get as good results by putting them in a cool cellar which could be ventilated to regulate the temperature. Then the bulblets may be inspected from time to time.

Our own results in getting germination from bulblets are very uneven. The bulblets of some varieties will grow anyway regardless of how carelessly they are treated and others no matter how well treated seem very difficult to get good growth from. We think of *Mrs. Dr. Norton* and *Myrtle* as being especially difficult to secure a good percentage of germination from.

If separated from the bulbs at digging time and stored in a cool cellar in sand just a little moist, we believe that the best results can be secured in germination. Care should be taken that bulblets do not mold under these conditions and they may need stirring up or pouring from one package to another from time to time. About equal bulk of sand to bulblets is desirable.

Gladioli on Sandy Soil.

TO THE EDITOR:—

Can Gladioli be grown in well fertilized, light sandy soil?

W. E. C., SR.

Answer:—Surely the very finest Gladioli may be grown in a well fertilized, light, sandy soil. The editor speaks from mature experience as he has grown Gladioli for eight years in a soil which was originally a very lean sand, and which he has built up during the past eight years, until it now produces results which are entirely satisfactory.

We want to suggest, however, that there is no doubt but what soil inclined to the clay order would give larger and stronger bulbs if well handled. A soil which may be called a light clay loam we believe would be ideal for growing Gladioli, but any soil must be handled with extreme care, and not a little intelligence, to get best and most perfect results.

MADISON COOPER.

Dividing Gladiolus Corms Before Planting.

TO THE EDITOR:—

I was much interested in the articles of T. B. Tippett in the August number of THE FLOWER GROWER, and "H. E." in the July number, on dividing Gladiolus corms. But do you really think they gained anything? Each agreed on having a live eye and bit of root system on each division. Question: Would not each live eye, in all probability, have produced a sprout, and consequently a corm, had the old one been left whole?

MRS. S. B. K.

Answer:—The underlying principle on which the securing of more rapid propagation by dividing Gladiolus corms is, we think, not well understood. It might seem, as suggested, that there would be no gain providing each live eye put up a sprout, but as a matter of fact the root system of a single corm is, as we understand it, not ordinarily sufficiently strong to develop every live eye in a corm. When the corm is divided, each division with a live eye and a part of the root system, it is almost certain, unless some infection sets in, that each division will make a sprout and thus develop a new corm for the reason that each division or eye has a much greater area of soil and fertility to draw from, than if no division were made.

It may be that we are wrong in our analysis of this matter and if others have different opinions on this subject would be glad to hear from them.

MADISON COOPER.

Peony Culture.

Would you give me information regarding the culture of Peonies? Is it too late to set them this season? What is the most prolific and the best seller?
Columbus, O. F. S. M.

Answer:—The Peony is a gross feeder, and needs rich soil, with abundant moisture, but sufficient drainage to prevent stagnant water at the roots. A dry, sandy situation will only result in disappointment. Soil on which corn or some other hoed crop has been planted the previous year is excellent for Peonies. While dry sand is objectionable, preference being given to clay loam, excellent results are obtained on sandy soil if there is enough moisture and fertility. Set the crowns 3½ in. below the surface, in rows 3 ft. apart. Fall is the best time for planting, from Sept. 1 until freezing; the first half of September is the ideal time. They may also be planted in Spring if convenient, but Fall is preferable. Give a liberal mulch of well-rotted manure when the ground freezes.

The following varieties are standard sorts for cut flowers and garden use: *Festiva Maxima*, white, early; *Couronne d'Or*, white, late; *Edulis Superba*, deep pink, extra early; *Jules Elie*, deep pink, early; *Livingstone*, deep pink, late; *Felix Crousse*, red, midseason; *Duchesse de Nemours*, white, early; *Delicatissima*, pale pink, early; *Jeanne d'Arc*, pink and white, early; *Gismonda*, very late, salmon pink, extra fine; *Albert Crousse*, pale pink, midseason; *Avalanche*, white, midseason; *Delachei*, red, late; *Venus*, blush white, medium. Better not try too many varieties at first; for commercial use you would be quite safe to start with the following half dozen: *Venus, Festiva Maxima, Couronne d'Or, Delicatissima, Edulis Superba, Felix Crousse.—Rural New Yorker.*

Sphagnum Moss.

These plants, for there are many species of Sphagnum, grow best in a climate that is moist and only moderately warm in summer. They are one of the chief forms of vegetation found growing in the swampy regions known as "muskegs," and occur principally in Newfoundland, the Maritime Provinces, Northeastern Quebec, Labrador, and the western parts of British Columbia.

The Sphagnum plant consists of a stem and branches, which are clothed with small, numerous overlapping leaves. They differ from most other mosses, in being entirely devoid of rootlets. Another peculiarity of Sphagnum is that the leaf never has a central vein or mid-rib. The outer part of the stem, as well as a considerable part of the leaf, is composed of a large number of special "absorbent cells" which are able to take up and hold water like a sponge. The amount of water absorbed varies according to the species, but ranges from ten to twenty times the weight of the dry Sphagnum. Owing to the ability of these cells to absorb the water required by the plant for its development, the presence of rootlets is unnecessary.

Sphagnum or bog moss has been used for a considerable period as a packing material for plants. Owing to its power of retaining moisture, it helps to keep them in a fresh condition until they arrive at their destination.—*Horticulture.*

The Cornell Reading Course for the Farm published by Cornell University, Ithaca, N. Y., A. R. Mann, director, has issued Lesson No. 144 in the plant series entitled, "How the Plant Produces Seed," by L. W. Sharp. This is a bulletin of 14 pages containing primary information along the lines indicated by the title. The bulletin is illustrated in an interesting way and the subject treated in such a clear and comprehensive manner that it will be helpful and interesting to beginners in botany and the science of plant life, and especially to those who are interested in producing improved varieties by cross-pollination.

We are not advised whether these bulletins will be sent on request to all who apply, but we believe that they will so long as the supply is adequate.

CLASSIFIED ADVERTISING.

Five lines (about 40 words) $1.00 per insertion. Additional lines 15c. each.

EAST HARTFORD GLADIOLUS CO.—The printer has the proof of our 1920 Catalogue listing 45 Varieties of Gladioli and a long list of Dahlias. Send for it. E. M. Smith, No. 65 Olmsted street, East Hartford, Conn.

LABELS—Patent, paper, trees, shrub or rose label. Colors: white, green, blue and salmon. Plain or printed. A cure for those afflicted with label troubles. Samples. Ohio Nursery Co., Elyria, Ohio.

MIXED GLADIOLI that will bloom, from the best that money could buy. Flowers 3 to 5 inches in diameter, stalks 4 to 5 feet high, 2 year old, 3 feet high. Best, 50c per dozen, 30 for $1.
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SURPLUS BULBLETS—Francis King, P. Hybrids, Crackerjack, Velvet King, $1. Meadowvale, Empress of India, Sulphur Queen, $2 per quart. Crackerjack, Francis King, Empress of India, Sulphur Queen, P. Hybrids, mixed planting stock. Write for prices. Alfred Oesterling, Gladiolus Grower, Star Route, Butler, Pa.

FOR EXCHANGE—Thousands of Crackerjack and Independence Glads for Americas and Francis Kings ¾ inch. to 1 inch.
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CHICAGO WHITE—1¼ up, $25; 1 to 1¼, $20; ¾ to 1, $15; ½ to ¾, $10: ¼ to ½, $6 per 1000.

Primulinus Hybrids, sizes as above, $20, $16, $12, $8, $5 per 1000. Still have bulblets and small sizes of America, Halley, Baron Hulot and War. All large sizes sold out. F. M. Palmiter, Janesville, Wis.

CAMERA FOR SALE—5 x 7 Graphic and outfit in A1 condition. Will consider part payment in Gladiolus bulbs. If interested in a bargain write for details and price. Walter Timmerman, 2107 North Tremont St., Kansas City, Kansas.

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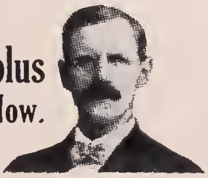
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Which are the best is the next question.

In my Fall Bulb List I have divided the varieties of Glads into two sections: first, those that are well known and of medium price; secondly, those that are new and rare and still high in price.

These sections are again divided into subsections, according to the colors.

Into the above divisions I have put the varieties that have done best for me in extensive trials. I do not claim to be the last authority on which are the best Gladioli, but I don't think that my selections are far wrong.

I found out something about Dahlias also, this last summer. Out of 100 varieties of Cactus Dahlias on trial, just six bloomed freely weeks ahead of the rest, without artificial watering and with only sparse cultivation.

This test means something to the thousands of flower growers in the great middle west where Dahlias are a crop about one year out of five.

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MADISON COOPER, Publisher, - Calcium, N.Y.

THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

Vol. VII
Number 1

January
1920

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
Entered as second-class matter March 31, 1914, at post office at Calcium, N.Y., under act of March 3, 1879.

PUBLISHED MONTHLY ON THE FIRST OF THE MONTH BY MADISON COOPER, CALCIUM, N. Y.
Subscription price: Three years, $2.00; One year, $1.00.

IRISES OF FRENCH ORIGIN.

[*Written expressly for The Flower Grower.*]

BY ROBERT S. STURTEVANT.

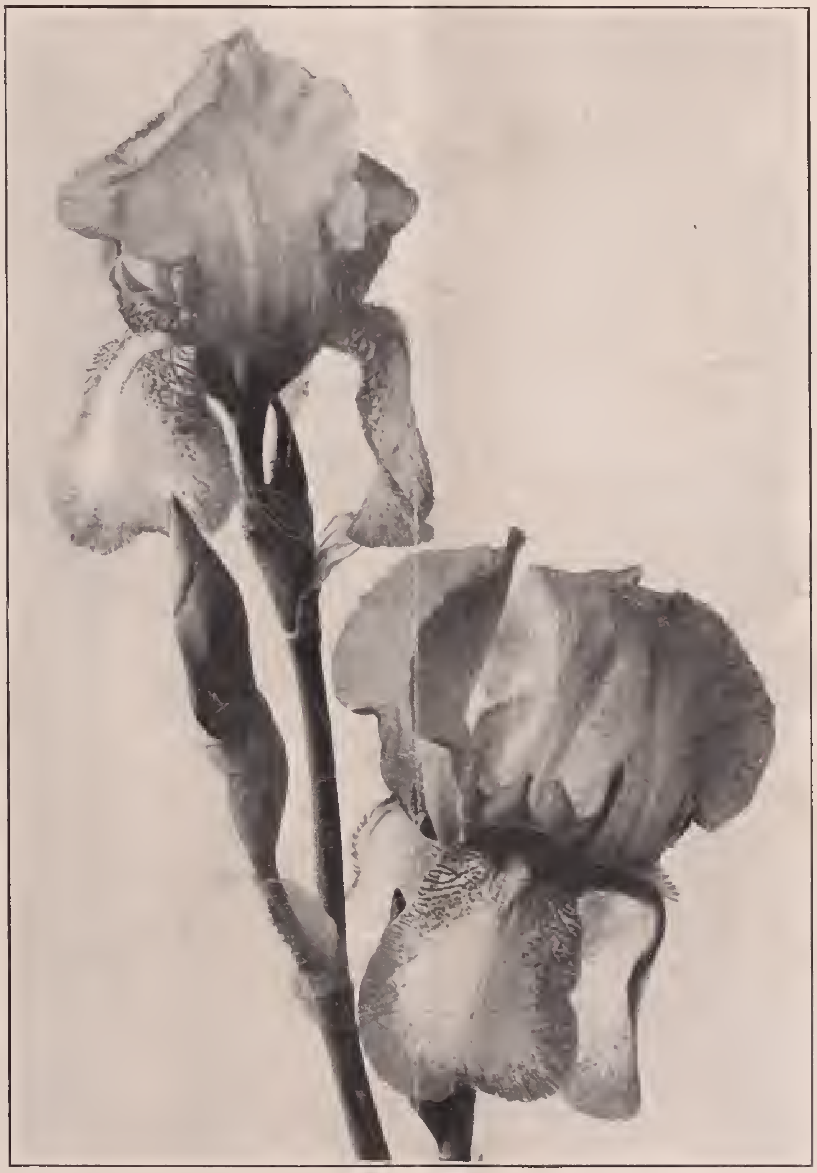
A NOTE on some of the newer Bearded Irises of French origin may be of interest. In the fall of 1918 I received a collection of about fifty varieties and these together with a number of others bloomed sufficiently well for a flower comparison at least, though many undoubtedly will prove more worthwhile in mass or as a well developed clump of two or three years standing.

In France whose nurserymen are so noted for horticultural developments in many lines, the Iris has received its meed of attention and *Alcazar, Monsignor, Oriflamme* and others, all introduced by Vilmorin, have done much to raise the standard. In the past Verdier, Cayeux, Crousse, and Lemoine, are known, but at present Millet, Denis, and Vilmorin, Andrieux et Cie, are more closely connected with the Iris.

As far as my records permit I shall consider the varieties from the same source as many of them do not lend themselves to the old group classification, particularly when blended, but far from squalid shades should be grouped under squalens.

M. Denis is a private grower, certain of whose productions may be found in our catalogues; *Dalila,* a velvety pink toned bicolor flushed with yellow is less attractive than it sounds; and *Troost, Our King,* and *M. Aymard,* of deepening old rose tints are not unlike *Her Majesty* in tone; *Romeo* is bright yellow with short vivid veins of purple below the beard, distinct but to me unattractive, and there are a whole group of madames, all plicatas but variously sanded and veined rather than bordered as in *Mme. Chereau* or *Ma Mie,* (Verdier). Many of them are decorative but in the garden their color does not carry well. *Mme. Boullet* is veined with dull violet, the cream ground flushed with lavender, *Mme. Bazes* is not unlike, though clearer, with dull red reticulations and a tinge of mauve; in *Mme. Denis,* the widely spaced violet veins and dots remind one of a daintily figured dimity while in *Mme. de Savigne* we find bright red-violet markings and flush after the fashion of the deeper *Parisiana,* (Vilmorin). (Illustrated on this page.)

Bellecoleur is old gold with dull lavender on the blade, an indeterminate tonation of no appeal. None of these are other than ordinary



IRIS—*PARISIANA.*

(Two-thirds full size.)

in size or height but the clear plicatas are nice. *Leverrier* has more size and I think its bronzed red-violet blooms will develop effectiveness; *Madame Claude Monet* is fine, almost the deep purple self of the early *Kochii* but large and of good height and *Mlle. Schwartze* and *Arsace* though more usual in color like pink-toned *Caterinas* are lovely too. These last three at least show Ricardi blood to advantage. Ricardi itself is apparently a form of mesopotamica and very close to cypriana and trojana in character; its variety *Foncé* has a delightfully crumpled texture and I should much like to see others of M. Denis' Ricardi seedlings, as the few I know are of the best.

Millet et Fils seem to consider habit, ease of growth and number of flowers, rather than height or size, and consequently, I expect the plants to show to better advantage in a mass. *Col. Candelot* has a brick red tone and we can only regret that its richness is not combined with good size; *Armenien* and *Arlequin* are similar in coloring to *Leverrier* while *Delicatissima* in pale pink-lavender and *Corrida* in blue are typically pallida though the latter with its upright standards and flaring falls has a marked crispness that should be wonderful in mass. *Souvenir de la Grange* is a mauve bi-color, *Savignon*, velvety, and *Mady Carriere* interested me greatly as it is clearly of the same parentage as *Afterglow* (Sturtevant) though soft blue, not yellow through the center—if your taste is educated to this delicate blend they will prove worthwhile. I have left to the last *Souvenir de Mme. de Gaudichau* as it is among the finest of the Bearded Irises. Unfortunately I have two forms under this name, both royal purple and of good size but one has a rich velvety fall that greatly enhances its value, this latter is probably true and only *Archeveque* in red-purple can equal the depth of its blue-purple.

The work, probably of S. Mottet, for Vilmorin, Andrieux et Cie remains to be considered. Their introductions are, many of them, well-known in this country and rated among the finest, though *Eldorado, Tamerlane, Cherubim*, and *Parc de Neuilly*, a plum purple self, are not so good in some respects. Of their newer things I have few. Further comparison is needed to judge between *Opera, Ambigu, Dejazet*, and *Leverrier* (Denis), though this year, the first was my choice, not tall but rich in color. *Mme. Guerville* in lavender, *Mercedes* in rose with a tinge of cream, and *Pancroft* a creamy white just powdered with lilac, are not unlike the plicatas from M. Denis, but *Mme. Choban* or *Chobaut*, is the most lovely of all in its clean contrast of palest apricot with red bronze venation. I am hoping that quarantine 37 will allow me to import *Magnifica* and *Ambassadeur*, as Mr. J. C. Wister reports their worth, the former he describes as very large, lighter and with less of the blue than *Alcazar* and the latter as like a rich purple *Dr. Bernice* of great size and heavy substance.

Of all these as judged from one stalk of bloom, but few are firm in my memory. *Gaudichau* (as I shall abbreviate it), *Madame Claude Monet, Mlle. Schwartze, Arsace, Opera* and *Leverrier, Corrida, Delicatissima, Mme. de Savigne*, and *Mady Carriere*, I well remember, but they are still on the waiting list. Shall they or shall they not join with my favorites among the older varieties, *pallida Dalmatica, Iris King, Monsignor*, and *Alcazar?* I wonder whether the reports of the forthcoming Iris Society will second these recommendations?

Northwestern Peony and Iris Society.

The mid-winter meeting of the Northwestern Peony & Iris Society was held at the Ryan Hotel, St. Paul, Minn., on the evening of December 3rd. Regardless of the fact that the weather was rather severe, there was a good attendance, and a very interesting and instructive meeting was held. With but few exceptions, the program was carried out in its entirety.

The following officers were elected for the coming year:

President, John E. Stryker, St. Paul, Minn.; 1st V. P., D. W. C. Ruff, Bald Eagle, Minn.; 2nd V. P., H. J. Bartholmey, Chicago, Ill.; Secretary, W. F. Christman, Minneapolis, Minn.; Ass't Secretary, T. A. Kenning, Minneapolis, Minn.

The present board of Directors were re-elected and in addition Prof. Le Roy Cady of the University Farm School was elected to take the place of D. W. C. Ruff who was made Vice President.

A motion was made and carried that the Board of Directors be authorized to take whatever steps they deemed necessary toward the publishing of a bulletin to be furnished to members at a small cost to cover mailing and printing. Details will be worked out and a report made later on this matter.

The deep interest manifested at the meeting proved clearly that the knowledge of the Peony and Iris is becoming more widely known and the desirability of the flowers more universally established.

I doubt if there is a state in the Union that enjoys as long a period of Peony bloom as does Minnesota. In the central part of the State and the southern section, late May bloom is to be found. This period stretches through the entire month of June and into the early part of July. In the Northeast section of the State in the vicinity of Duluth, the Peony shows are held about July 10th, when they are at their best. This period of bloom is extended well into the month of July, thus giving a wide latitude in the blooming period within the confines of the State.

A rising vote of thanks was given to our Vice President, Mr. Bartholmey for the very excellent showing he has made in securing members and for the untiring work he has done in making our Society a success and exemplifying the principles that we desire to promulgate.

Ten new members expressed a willingness to join our ranks and were received into the fold of Peony and Iris enthusiasts at our meeting, thus bringing our membership close to the 250 mark, a goal I set at the annual meeting held last year, and the credit for this is chiefly due to Mr. Bartholmey's efforts.

The matter of having an individual show for the Iris a week or ten days in advance of the Peony show was discussed and definite action will be taken upon the question later. It was also suggested that a more appropriate time be set for the holding of our Peony show. Dates of recent years being deemed several days too late for the best results to be obtained.

The National Iris Society is well under way. I have a very interesting article that will be presented to you in the near future on the aims and purposes of such a society.

I recommend heartily each member reading THE FLOWER GROWER. The December number alone is worth the price of a year's subscription. It covers a broad field, the Peony, Iris, Dahlia, Rose, Gladiolus, and many other flowers are given especial attention and excellent articles presented each month. Write the Publisher, Madison Cooper, Calcium, N. Y., for a copy and be convinced.

W. F. CHRISTMAN, Secretary.

Woman's National Farm and Garden Association.

TO THE EDITOR:—

I read with much interest the leading article in THE FLOWER GROWER for November and was also glad to see on page 116 of the same issue a notice of the Woman's National Farm and Garden Association. I write now to say to Miss Graham, the writer of "Proposed Flower Grower's Associations," that through the Woman's National Farm and Garden Association and its Branches this very work of which she writes in so agreeable a manner is being done; women are growing flowers successfully and marketing them through channels furnished by the Association and its Bulletin. All that is needed then is a more general knowledge of the already existing Association, whose membership is within reach of all, only one dollar a year. The office at 414 Madison Avenue, N. Y., will furnish further information, but I would suggest that Branches of the Association be formed in all places where women are desirous of growing flowers in a small commercial way. Ten or more members of the National Association constitute a Branch.

LOUISA Y. KING.

(MRS. FRANCIS KING, President.)

If you have not already sent in your name as a charter member of the American Iris Society to be organized this month, you should not fail to do so at once.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

The Woman's National Farm and Garden Association.

WAS IT a farmer who said that "Wimmen air cur'us creeters?" Well, perhaps we do seem "cur'us" in some ways and to some people, and possibly there is more truth than fiction in the old saying: "When a woman will, she *will*, and when she wont, she *wont*. However, in 1914, 12 women met and organized an association that now has a membership of over 2,000, and increasing rapidly. Those women, as well as their followers, must possess strong *will* powers and have a worthy aim.

When the war came with the shortage of food, in response to the call of the President for increased production, women all over the country took up farm and garden work. They got down on their knees and planted seed and pulled weeds, which is real work. By-the-way it isn't always necessary to have many weeds to pull, if by the right kind of cultivation they are prevented from growing.

Their work and the spirit in which it was done won praise and more, for in many cases it won a love for out of door life that will never be given up. Their health was improved rather than impaired, and I doubt if any became especially lean and angular, which I mention because, not long ago a new acquaintance remarked to me quite confidentially, "Do you know when I heard that you worked with flowers, I pictured you as lean and angular."

In May, 1917, the Mayor's Committee of Women on National Defense (New York) appointed a Standing Committee on Agriculture, which formed itself into a clearing house for placing women in units on farms as a useful form of patriotic service. At the suggestion of the Woman's Committee of the Council of National Defense, the Woman's Farm and Garden Association called a conference in New York City in the following December. This conference resolved itself into an Advisory Council of the Woman's Land Army of America, the purpose of which was to stimulate the formation of a land army of women to take the place on the farms of men who were being drafted for active service. At this and subsequent meetings, representatives of the following organizations were present: The Woman's Committee of State Council of Defense; The Woman's National Farm and Garden Association; the Garden Club of America; the Federal Food Administration; the National Board of Young Women's Associations; the College of Agriculture, Cornell University; the New York State School of Agriculture, Farmingdale; the Women's College of Delaware; the New York State Grange; the New York State Labor Bureau; the Westchester County Farm Bureau; the Committee of Women in Industry; the Intercollegiate Bureau of Occupations; the New York Suffrage Party; the Association of Collegiate Alumnae; the Woman's University Club; Committee of Agriculture of the Mayor's Committee of Women; Agricultural Camp at Bedford; and the Scarsdale Community Farm. Representatives of other organizations are, from time to time, being added to the Council.

The Woman's National Farm and Garden Association became the prime mover in starting the Woman's Land Army of America as a wartime measure, furnishing data of work done in England, Canada and America. More than fifty of its members were among the most active workers in carrying on the Land Army work, that not including other members who were most valuable as members, leaders, or supervisors of units. It had entire charge of the Land Army work in Massachusetts, Rhode Island, Southern California and the Gulf States, through its branches in those sections.

The war is over but there is a place and need for woman on the land, and to accomplish the ends for which the Association stands it is necessary to have a greater membership.

At its conferences it has given publicity to horticultural and agricultural work for women. It has been an effective agency, without fees, for women wishing positions on farms or work in greenhouses and is a valuable assistant to those primarily interested in flowers.

It has furnished women markets for their products through sales at the National headquarters (New York) through Branch Associations, and through the columns of its own publication.

Few women can work on the land very long without becoming interested in flowers, and almost before they realize it a large part of the garden is devoted to flowers, and the flowers bring fully as good returns financially as the vegetables. Flowers are now being used more than ever before. The war taught us need of flowers as well as vegetables and although they were among the so-called nonessentials, when hearts were stricken by loss of loved ones in foreign lands, and deadly disease swept our own country like wildfire, people, and many of whom had scarcely ever given a thought to flowers before, bought them and are still buying for they have learned to love them and they have also learned that there are some things that words cannot express but that can be said with flowers.

During our several years of selling Gladiolus bulbs through the mails I have received many interesting letters from women who wish to do something out of doors, asking for cultural instruction in growing Gladioli, and I feel that there is a great opening for that class by becoming members of both the American Gladiolus Society and the National Farm and Garden Association. Membership in the former would furnish—through its official organ, THE FLOWER GROWER—knowledge of the culture of Gladioli from experienced growers, and in the latter the almost necessary light farming that goes with it to make up success.

Mrs. Francis King, whose name, through the medium of a beautiful flower, has gone, practically, around the world, is the President and Leader of this National Farm and Garden Association.

MRS. A. H. AUSTIN.

I am indebted to Mrs. King and the Bulletins of the National Farm and Garden Association for information used in the above.

MRS. A. H. A.

Massachusetts Agricultural College.

WINTER COURSE IN FLORICULTURE.

The Winter Course at the Massachusetts Agricultural College begins on December 30 and continues for a period of ten weeks. The course offered in floriculture is designed to furnish those who have not the time to devote to a longer course with the theoretical and practical considerations essential to success in floricultural work. The course covers as thoroughly as time will permit those aspects of the work which are of especial interest to the commercial florist. Some of the topics considered are greenhouse construction, greenhouse management, and methods used in growing important commercial crops. A portion of the course will also be devoted to a consideration of gardening and garden flowers. Special trips are taken to study floricultural establishments in the State. Courses in soils, plant diseases and insect pests accompany the work in floriculture.

Further information concerning the course may be obtained by writing for an Announcement either to the Department of Floriculture or the Short Course Office, Massachusetts Agricultural College, Amherst, Mass.

One of the greatest rosarians in England states that he has often found that the less double a Rose is the more easily it produces seed. This statement was made in connection with the Rose *Ophelia* which he states was not produced from artificially fertilized seed, but came from a pod gathered at hazard in the nursery.

Ophelia seems to be very prolific of sports and seedlings. If the parentage of *Ophelia* could be known beyond question it would be of much interest.

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Vol. VII January, 1920 No. 1

> "*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

The Proposed American Iris Society.

Dr. H. A. Gleason of the New York Botanical Garden, recently wrote us concerning the formation of an Iris Society, stating that there was an opportunity there for co-operation in planting complete Trial Grounds. A preliminary notice signed by Lee R. Bonnewitz, James Boyd, Grace Sturtevant, B. Y. Morrison, and J. C. Wister, has been sent out and with Dr. Gleason as Secretary pro tem. Further notice will be sent out to all interested, calling for a meeting for organization at the New York Botanical Garden, Jan. 29, 1920. It is hoped that many will respond and that the developed society will prove of value to everyone that has a garden.

Within the last decade there has been a flood of new Irises from the hands of breeders both in this country and abroad and a corresponding increase in the general interest. It is high time that some central body should gather together information on Iris matters whether it is the history of our garden favorites, the records of our present varieties, or the opportunities for the future. Our catalogues are filled with named varieties, old forms stand cheek by jowl with new, and who, as an individual, can tell which is worthwhile for his small garden? Many varieties both old and new, should be thrown into the discard and what but an association may do this without prejudice and with authority?

Many are the lines of research and development ahead; botany, history, culture as advised for different localities, pests, and a classification based on color for identification, and use of special varieties; a test garden for comparison and judging, exhibition gardens to show the best in proper use, premiums that will make an Iris show a necessity for any Garden Club or Horticultural Society and finally authoritative information suited to our individual needs. By collections of books, lectures, and lantern slides for loaning, by timely articles and notes, by personal enthusiasm and by word of mouth let us bring to the veriest amateur with his bit of garden the appreciation of Irises, their ease of culture, their wealth of bloom, and glory of color. Each of you who has grown the Iris has at sometime undoubtedly wished for advice or friendly interest, let us know through Dr. Gleason these needs and possibilities not only that the Society may fulfill them, but that you may share as well in its results. There is a pleasure in riding a hobby but how many of you know the added pleasure of comparing notes with many others of like interest? That is the crowning pleasure.

GRACE STURTEVANT.

The Open Fireplace.

The Glad Philosopher in his Musings this month touches on a subject which is near and dear to the heart of the editor. The facts he brings out about the open fireplace are not commonly known and we recommend for careful perusal not only what the Glad Philosoper says, but what Mr. Saylor, the fireplace specialist, has to say.

True, "there is an inexplicable quality in a wood fire" that most any one can feel. This call is an intangible thing, but it is there just the same. We doubt exceedingly if the Glad Philosopher's suggestion that "one reason for the charm of the wood fire is its lack of monotony" is a sufficient explanation of the wonderful interest it creates. A wood fire requires continuous attention and this in itself makes it interesting, but the health giving influence of the open wood fire has never been properly explained. Nor are we prepared to make an explanation which is likely to be accepted. We are simply willing to let it rest with the statement that there are many things in nature and many forces at work which we poor mortals cannot understand and which perhaps we are not yet ready to comprehend.

To all you who expect to build homes of your own at some future time, don't forget the open fireplace and a supply of wood to keep it going. The editor has such in his own home and the fire is started early in the fall, and, practically speaking, is not allowed to die out until late in the spring. In fact, whenever there is the least excuse for a fire in the fireplace, like the cold rainy days which sometimes come even in July, a fire may be found there. The fireplace has a value which cannot be computed and, once enjoyed by the home maker he is not likely to ever again be without it.

Mr. Saylor's mention of drift wood fire is probably only familiar to dwellers near the sea coast and needs some explanation. Drift wood is commonly secured from old wooden ships which have become obsolete and are broken up. The timbers are thoroughly saturated with the ocean salts and in burning they make a great display of tints and colors, which must be seen to be fully appreciated.

While the suggestion of the open fireplace is not strictly within the scope of THE FLOWER GROWER, yet we have no apology to make for touching on a subject so important to the nature lover and we are glad that the Glad Philosopher has covered it in his usual thorough and interesting way.

MADISON COOPER.

Work and Real Education the Remedy for Unrest.

Various remedies have been suggested for present so-called unrest among the people. Unrest as we see it, is the result of progressing too rapidly in certain lines, accompanied by what we should call a spurious education. Education should be based on the fundamentals of life. When this is done unrest will disappear. This is rather abstract reasoning, but will try and make it more specific.

Our schools teach, at least by inference, that if their course of study is followed out and the student is graduated, that the student is thereafter excused from manual labor. He is too well educated to work, in other words. The atmosphere of our higher educational institutions is especially saturated with this idea.

Beginning with the young, the principles which underlie human life should be taught. Labor is the first duty of man. The production of useful things is the chief element of good citizenship. The development of the individual through labor and useful activities of all kinds and through the study of useful subjects is the chief aim in life.

This subject could be pursued further, but we state these thoughts in outline for the purpose of indicating to the thoughtful reader that education which does not teach work as a fundamental is no education at all.

MADISON COOPER.

A Most Important Educational Movement.

The United States' School Garden Army, Bureau of Education, Department of Interior, is doing a most valuable work. In it more than 2,500,000 children in the United States and its dependencies are now enrolled. Not only has this organization helped to keep down the cost of living in many homes, through food products successfully grown, but what is equally important is the fact that the children have been taught a helpful nature lesson which they never will forget.

We believe that education of this kind to develop children of school age is one of the most valuable lessons that can be given, and though we do not despise an education which is secured from books, yet we believe that an education of the hand and the eye is equally important, if indeed it is not more important, than the education of the brain. In fact, there is no doubt but what in educating the eye and the hand the brain is equally benefited.

There is really nothing so important to the young as to teach them the necessity of useful work of all kinds, and, therefore, the organization above referred to is indeed a most valuable one, and we commend its work to all who are interested in the education of the young.

MADISON COOPER.

To Iris Lovers.

We personally urge that all those who are interested in growing the Iris, either commercially or as a hobby, should become members of the American Iris Society to be organized on January 29th as announced on page four. Be present personally if you can to help the good work along. If you cannot be present, send your name and state your desire to become a charter member.

MADISON COOPER.

A number of correspondents have reported that the strong growing variety, *Evelyn Kirtland*, has given them branched flower spikes. F. P. Clark, of Garrettsville, Ohio, sends us photograph illustrating the same, but the photograph is not suitable for reproduction. The editor has also had the same experience with *Evelyn Kirtland*, and this seems to be a characteristic not at all uncommon. Mr. Clark also reports double bloom on *Kirtland*.

The Glad Philosopher's Musings.

Of highest earthly bliss I dream—
I'd have a shack beside a stream,
'Midst grassy plot, 'mongst stately trees,
Where oft I'd hie, and take my ease.

I have often wondered why so few city people seem to realize the satisfaction derivable from having a country place, be it ever so small. In fact, the smaller and less pretentious it is, the more happiness it is likely to produce, for have you never noticed that the happiness of the occupant is often measured inversely by the size of his habitation?

To the tired business man or mental worker, nothing can furnish such complete relaxation as a place in the country to go to at the close of his day's work, or where he may spend his week-ends; especially if there be a garden plot included, to plan for and to work in.

Of course, the equipment of a country home or woodland lodge would not be complete without an open fireplace. How delightfully attractive is the wood fire; what music in the crackling of the burning log; what pictures conjure up and dreamingly flit before our drowsy eyes as we sit gazing at the glowing embers. Henry H. Saylor has written a practical little book entitled "Making a Fireplace," which all who contemplate building fireplaces would do well to read, since it gives reliable instructions for their proper construction. In his preface, Mr. Saylor says: "There is some inexplicable quality in a wood fire that exerts almost a hypnotic influence upon those who gather eagerly about it. The smouldering glow of the logs induces a calm and introspective mood that banishes all the trivialities and distractions of the day's work and gives one an opportunity to replenish his store of energy for the coming day."

Rudely clad in skins, primitive man, when cold, warmed himself before huge fires in the open, which met the simple demand of his barbaric nature. The fire in the Indian's wigwam was a step higher in the ascendancy of civilization; then came the more substantial stone hut or log cabin with open fireplace, which satisfied our sturdy forebears, who doubtless believed that perfection had then been reached, entertaining no ideas of the possibility of further improvement. But evolution cannot be stayed nor progress hindered, and so later came the enclosed iron stove, followed by our modern systems of house heating with steam, hot water and electricity; and while these successively mark progress in efficiency and luxury, yet there is a charm in the open wood fire that is lacking in all other methods.

Doubtless one reason for the charm of the wood fire is its lack of monotony. Sometimes impetuous, at other times inclined to sulk, our wood fire easily reaches extremes, and demands some skill and frequent attention to keep it within satisfactory bounds. The diversity of results from using various kinds of firewood is interestingly commented upon by Mr. Saylor, as he writes:

> "For the wood fire connoisseur, if we may call him by that name, there is no difficulty whatever in telling with a glance what wood is burned. The crackle and explosive nature of hickory, the hiss of pine, the steady flame from cherry, the hot and rapid disintegration of sycamore and the steady and thorough combustion of soft apple wood soon become familiar characteristics to those who have the opportunity to lay the fire in variety. Then there is, of course, the fascination and the wierd coloring in a driftwood fire—most spectacular of all but unfortunately denied to most of us."

Mr. Madison Cooper, editor of THE FLOWER GROWER, once expressed to the writer his belief that the light and heat from a glowing wood fire exerts the same health-giving effect upon our bodies as direct sunlight. It seems quite logical to believe that those dynamic forces which caused the tree to grow were absorbed and lie dormant in the wood, awaiting some process of releasure, of which there is none so quick and thoroughly complete as combustion.

THE GLAD PHILOSOPHER.

WAYSIDE RAMBLINGS

1919 GLADIOLUS NOTES FROM SOUTH-EASTERN OHIO.

This past season was exceptionally favorable for Gladioli in this section. Weather conditions in the spring were such that our first plantings were later than usual, but when once in the ground the corms fairly lept into growth and came right along all through the summer without a check from excessive heat or drouth. In fact it seems that Glads do not suffer at all from hot weather provided there is plenty of moisture in the soil.

Our first planting, 100 Kunderd's *Primulinus hybrids*, was made on April 15th. The first spikes of bloom were cut from these on July 3d, seventy-nine days after planting. From this until through the first week in August these interesting flowers (from this one planting) made the home of their owner continually bright and his heart happy in their wonderful and varied beauty.

Most visitors to my garden fail to "see" the Primulinus. This failure I am convinced is due to a lack or defect of artistic appreciation. True, a vase of Primulinus is not at all striking or especially showy. Their beauty is quiet, modest; not compelling, but attractive. Their seductive charm grows on one like the music of a Schubert song or the voice of a dear friend. Their graceful, open arrangement on the stem, their varied, unique and very pleasing forms, their wonderful blending of delicate and rare colors—these qualities combine to make the Primulinus a constant delight, a precious jewel among flowers.

This season I tried a number of Mr. Kunderd's named sorts of Primulinus. As to these I am compelled to agree with others, in that their excellence above the mixtures hardly warrants the use of special names. In fact, with the exception of *Butterfly* and *Salmon Beauty*, I can choose from the mixture a number that are as good as the named ones I have grown.

On Mr. Woodruff's word I tried a few of the Diener hybrids. Corms of such size and vigor as these I have not bought elsewhere; nor have I grown any like them with the exception of some *Peace* this season. They were as large as turnips and how they did grow and bloom! A dozen *Anna Eberius* produced over forty fine spikes of bloom and forty-one good corms were dug from this one dozen. A dozen *Thomas T. Kent* almost equaled this record. The spikes of bloom were very large, especially the *Kents* and some of the mixed seedlings. As compared with other sorts I can't agree with some growers in praising these Dieners as to flowers. I recall that one writer in THE FLOWER GROWER leaves the impression that *T. T. Kent* is a sort of glorified *Pendleton*. Now I am sure that when this writer's enthusiasm has cooled a bit he will agree with me that no grower or hybridizer has produced or is likely soon to produce a Gladiolus which in any respect excels *Pendleton*. I really do not like the *Kent* at all. *Anna Eberius* is some like *Herada*, darker and not nearly so attractive. And, by the way, *Herada* is hard to beat for sheer beauty, both in color and form. So that when one compares any Gladiolus with *Herada*, no little praise accrues to the sort compared.

With the Dieners came an "Extra" corm labeled *San Anselmo*. It produced two spikes of bloom, the like of which in size and beauty I have not before seen. For the life of me I could not tell it from an immense and perfect *Peace*. Other growers tell me the throat blotch differs in color from that of *Peace*. So I am driven to the conclusion either that I am color-blind or that a mistake was made in labeling the corm sent me.

Of the newer reds I tried this year *Fire Ribbon, Goliath, Red Amarillas, Lovesfire, Red Emperor* (or *Dominion*). *Fire Ribbon* and *Lovesfire* are of almost the same shade of bright scarlet. *Lovesfire* is of the better form, wonderfully beautiful. *Red Emperor* is all its sponsors claim for it, far and away the finest red of all. *Red Amarillas* is also very good. In the dark reds *Goliath* is hard to beat, produces wonderful spikes of immense dark wine-colored flowers, is a vigorous grower with very good foliage. As a cut flower it takes up water well and is a good keeper. It easily displaces *Faust* and is a better Gladiolus in every way than *Empress of India*.

I am disappointed in *Myrtle*. It is variable in quality for me. A few spikes were very good, but most of them came bad in color, splashed and striped with too pronounced a red. It keeps well and has the very good quality of having a number of blooms open at once. In fact, most spikes showed every flower open at one time. So far as I tried it, I find that *Myrtle* should be cut early and bloomed in the house. What spikes I allowed to bloom in the garden were atrocities in color. I much prefer *Pink Perfection* to *Myrtle*.

Prince of Wales is a jewel, "The Ophelia of the Gladioli." It is a glorified *Halley*, very similar in form, but much better in color. It is a good keeper and inclined to show too light in color when bloomed in the house. A vase of good *Wales* is hard to beat.

And while we are considering pinks, I venture to suggest that producers of new varieties are going to have a hard time to bring out one to beat either *Evelyn Kirtland* or *Gretchen Zang*. Last year the drouth cut my *Zangs* short. This year they were perfect, immense flowers of radiant pink in long heavy spikes. I feel about these two Gladioli:

> "How happy could I be with either
> Were t'other dear charmer away."

Peace did not do well for me this year, except that it did produce some immense corms. The spikes were sturdy and floriferous enough, but the flowers came small and the petals were splashed and striped with an ugly, dirty red; so that, if I had not grown some unsurpassedly beautiful *Peace* before, I should be inclined to discard it. But so it goes. *Lily Lehmann* was no good for me last year and this season did fine.

Pendleton always comes good and I suppose most growers, if confined to one variety, would choose this one. If I could have but two I would not hesitate to choose *Pendleton* and *Kirtland*. After that perhaps *Peace* for a third, though *Peace* is rather variable and disappointing when conditions are not favorable and this sometimes when conditions are perfect.

HARRY BRIGGS.

HEMEROCALLIS FLORHAM.

Among the hardy perennial plants which have been grown everywhere for a long time, perhaps few are more universally popular than the old Lemon Lily (*Hemerocallis Flava*). Its clear yellow color, delicious fragrance, graceful form of the flower and its willingness to flourish and increase under any favorable conditions make it a general favorite. Because it is cheap and easily obtained it is the only variety known to most of us, but there is at least one other variety which is well worth adding to the general collection. Hemerocallis Florham has the advantage of blooming in July, about a month later than the old Lemon Lily; the flowers are a little larger, a trifle darker and have the same fragrance. I obtained this variety several years ago but planted it in a rather unfavorable locality, near an oak tree, and it did not spread like the old sort. So, last spring, I took up the whole clump and divided it into six, with the result that each division bloomed about as well as the whole clump did before. I have no plants to sell and can disinterestedly recommend this new Hemerocallis.

Other varieties are advertised but I confess my ignorance of them. Perhaps some reader will tell about some of the others.

GEO. S. WOODRUFF.

GLADIOLUS—PRINCE OF WALES.

One of our advertisers wrote us for a description of *Prince of Wales*, and we were quite at a loss to locate a suitable description for him. The best we could do was to give our own ideas based on experience as follows:

As *Halley* is so well known, and as *Prince of Wales* is no doubt a sport of *Halley*, it is perhaps best to compare these two varieties in order to give a good idea of the characteristics of *Prince of Wales*. *Prince of Wales* has been called a glorified *Halley* if that means anything important in this connection, but we regard *Prince of Wales* as a big improvement on *Halley*. It is a larger flower and a taller grower. It has a more delicate tint and is practically without throat marking whereas *Halley* has a very distinct line or small blotch. What throat marking *Prince of Wales* has is of yellowish tinge, but no distinct mark.

Prince of Wales is claimed to be earlier than *Halley*, and our own experience would indicate that it was. A few corms of the latter which were mixed with *Prince of Wales*, bloomed, generally speaking, later than *Prince of Wales*. This was noticed in roguing. Our experience, however, is only of three years' duration and we are not so sure that *Prince of Wales* would come earlier every year than *Halley*.

In color *Prince of Wales* is very similar to *Halley*. *Halley* is a little deeper or brighter shade, but it is not always easy to distinguish them when blooming together in the field except by the throat markings. The color of *Prince of Wales* we would describe as a salmon pink, some call it a coral pink. The shade is very similar to *Halley* but more delicate.

Altogether *Prince of Wales* we should call a better florist variety than *Halley*.

It makes a fair amount of bulblets which germinate well, and it produces salable flower spikes from comparatively small corms.

Like *Halley* it is inclined to a weak stem, and during the tropical weather of July, 1919, many spikes of *Prince of Wales* were completely ruined by the heat.

Everything considered we should call *Prince of Wales* one of the most promising of the comparatively new varieties. It has certainly been favorably received by Gladiolus growers in this country and we look for it to become one of the standard florists sorts.

MADISON COOPER.

GLADIOLUS—WILBRINCK.

I tried a few *Wilbrinck* last spring, but none sported back to *Halley*. If it were not for its earliness it would be classed as a very ordinary variety. Next season I will plant a few *Halley* at the same time to test them as to their earliness. It seems to me that it was somewhat earlier than *Halley* last summer.

W. E. FRYER.

PEONY SEED.

I was much interested in Mrs. Pleas' article on "Seedling Peonies" in the December FLOWER GROWER, but note that she omitted one of the most essential items in her instructions for growing the seedlings.

She says, "Secure fresh seed and stratify for spring planting." Now the question arises *where* to secure that seed. I would be glad to plant a quantity of Peony seed each year, and have scanned the seed catalogues each year to find where I could buy some; but that is about the only perennial the seeds of which are not offered for sale. If any of the readers of THE FLOWER GROWER have Peony seed for sale, why do not they offer them through the advertising columns?

C. A. CLARK.

Perennial Succession of Bloom.

BY BERTHA BERBERT HAMMOND.

[*Written expressly for The Flower Grower.*]

"To garden, to garner up the seasons in a little space, is part of every man's philosophy. To sow the seeds, to watch the tender shoots come out and brave the light and rain, to see the buds lift up their heads, and then to catch one's breath as the flowers open and display their precious colors, living, breathing jewels, is enough to live for."

—*Dion Clayton Calthrop.*

Succession of bloom, that desirable and valuable attribute which goes far to make a garden "a lovesome spot," can be readily secured in the hardy garden by a little thoughtful planning and intelligent effort.

While few, if any, of the perennials are literally "ever blooming," yet by a judicious choice of varieties an uninterrupted season of bloom, from early in spring until winter, may be assured, not only for one season but for year after year and that without much work or a great outlay of capital, for many of the finest and most desirable perennials may with a little patience, be successfully started from seeds sown in a protected bed, during the summer months, and the seedlings transplanted into their permanent quarters in the fall early enough to give the young plants an opportunity to become established before the winter sets in. Seeds of Canterbury bells, Foxgloves, Hollyhocks, Poppies and other plants that are usually sown where they are to remain, may be planted with success as late as August.

The selection of plants for succession of bloom is fortunately fairly wide and will naturally vary according to the individual. In my garden, ere the snow has disappeared the delicate, white bells of the Snow-drop on slender stems are swung to and fro on the chilly March breezes and herald the glad tidings that the old, brown earth has awakened from its long winter sleep. Scarcely has the brave little Snow-drop pierced the half frozen ground

"When the first Crocus thrusts its paint of gold
Up through the still snow-drifted garden mould."
—*Aldrich.*

Following closely upon the heels of this very early Crocus *Cloth of Gold* "come the larger varieties of Crocuses, then the Golden Daffodils, fragrant Hyacinths, early Tulips and the modest Violet that is so very shy that:

"She shuns the bright meadow
And hides in the shadows
Her big golden eye."
—*Marian Clark Potter.*

May sunshine calls into being gay Darwin Tulips, prim English Daisies, graceful Columbines, fair Lilies of the Valley, retiring Star of Bethlehem and the drooping Bleeding Heart.

June suggests vistas of Roses, a profusion of brilliant Poppies and star-like Sweet Rockets, showy Peonies, rare Irises, dainty Digitalis and lovely Madonna Lilies blooming against an effective back ground of Delphiniums of varied and exquisite blues. In torrid July, orange-hued Hemerocallis, tawny Tiger Lilies, coral red Torch Lilies, crimson-eyed Hibiscus and some striking varieties of improved Phlox add a riot of oriental coloring in harmony with the tropical atmosphere.

With the coming of August the fragrant Plantain Lily opens its pallid buds, the curious shell flower blooms, the dainty Gypsophila spreads its mystic charm, the Golden Glow reflects the sun's bright rays, and stately Hollyhocks stand straight and tall like sentinels on guard.

September ushers in hardy Sun flowers, lilac-hued Funkia Lanceolata and Clematis Paniculata, the sunny flowers, of which are followed by clusters of seeds enveloped in downy appendages that make a striking exhibition until the snow flies.

With the advent of golden October, the hardy Chrysanthemums come into bloom and with the aid of Hollyhocks and other belated bloomers continue the welcome floral display into November or until the icy fingers of Jack Frost nip the last buds and a blanket of protecting snow falls tenderly over the sleeping plants.

There are various other desirable plants that may be effectively used in a scheme for succession of bloom. The ones here mentioned are those that I happen to grow, and these perennials and few biennials supplemented by some flowering shrubs, a number of favorite annuals, Gladioli, Dahlias and other summer blooming bulbs, afford a continuous display of bloom from frost to frost; enough for home and church and some to spare for friends, acquaintances, the sick and others not so fortunate as to possess them, for in the words of a poet:

"A rose to the living is more,
If graciously given before
The lingering spirit is fled,
Than sumptuous wreaths to the dead."

[Do not happen to know author's name.]

BERTHA BERBERT-HAMMOND.

Edgar A. Higgins.

The death of Edgar A. Higgins of Avoca, New York, takes away a man well known to flower lovers of the Empire State. His work as an introducer of flowers into many homes has been extensive, and his advertisements of Sweet Peas and Gladioli are well known to thousands of flower lovers. Mr. Higgins was known as "Sweet Pea" Higgins, and of recent years he has given much attention to Gladioli also. He promoted many beautiful flower shows in his neighborhood, and many were stimulated by his work in the kingdom of flowers.

Mr. Higgins at the time of his death was in his 66th year and his sudden taking off will be regretted by a host of friends.

In addition to his activities in the floral line, Mr. Higgins was interested in many different enterprises in his vicinity.

It did not take the weak-kneed Gladiolus growers long to sell their surplus stock. We learn that already many growers are completely sold out, many of them disposing of planting stock which should have been reserved for propagating purposes.

THE IRIS.

A Suggested Program for The American Iris Society.

BY JOHN C. WISTER.

INTRODUCTION.

Some of the activities into which the American Iris Society should enter, are discussed in the following paper. It is realized that important points have been omitted, and that less important points have been given undue emphasis; and this paper is offered chiefly as a means of creating discussion, and of bringing out the sentiments of the Iris growers of the United States, who may become members of the Society. Suggestion and criticisms are invited and should be sent to the Secretary, Dr. H. A. Gleason, Botanical Garden, Bronx Park, New York City.

* * * *

The American Iris Society is the result of a long felt need among Iris growers, both amateur and professional, for a central body to assemble all available information concerning Irises and Iris growing, to conduct research, to ascertain additional information, and to encourage in every way Iris growing in all parts of this country.

I shall take up some of the suggested activities for this Society in the following order:

I. THEORETICAL WORK—
  1. Botany.
  2. History and Classification of Horticultural Varieties.
  3. History of Iris Growing.
  4. Cultural directions for different climates.
  5. Pests.

II. PRACTICAL WORK—
  1. Test Gardens and Exhibition Gardens.
  2. Iris Shows with suitable prizes.
  3. Publicity.

I. THEORETICAL WORK—

1. Botany.

Upon botanical knowledge must rest the foundation of any work dealing with plants. The great work of Mr. W. R. Dykes, "The Genus Iris" presents an exhaustive study of Iris botany. As the price of this work places it beyond the means of many persons, we believe that the Society might make it available to its members by some system of traveling libraries. Another fine book is "The Book of the Iris," by R. Irwin Lynch. A less technical work is "Irises," by W. R. Dykes. There are, however, still many disputed botanical points concerning which this society might conduct research.

2. History and Classification of Garden Varieties.

In this important subject there is no available authoritative material, and one of the first duties of the Society should be to make a thorough search for all possible information and assemble it. Nursery catalogues are filled with hundreds of varieties, the origin of which is not now known, and many of these varieties are masquerading under several different names. Present methods of classification are entirely inadequate, and there are no standardized descriptions, many of the catalogue descriptions being so inaccurate as to be misleading.

The Society should publish a catalogue of all varieties in commerce, giving name of originator, date of introduction, parentage, and synonyms, wherever these facts are ascertainable; it should describe them accurately by means of a color chart, state briefly their chief good and bad points. A start towards such a work is now being made, in the preparation of a check list of Bearded Iris, containing the names of over 900 varieties.

3. History of Iris Growing.

No coherent review of the history of Iris Growing, and of Iris Growers and Breeders has ever been published. Information as to the introduction of the various species can undoubtedly be found in botanical publications. Of the early beginnings of garden Irises little is known. The following review of the ascertainable history of Bearded Irises, will show how very fragmentary our knowledge is, and it is hoped it will suggest what great interest a real knowledge of history might bring to the lovers of the Iris. The history of the Rose is quite complete, and through the labors of Peony enthusiasts we now know fairly clearly the transition from the wild Peony, through the skill of French breeders during the last 100 years, to the magnificent garden Peony of today. The story of the transition from the wild types of pumila, pallida, variegata to the modern Irises of our gardens, should prove equally fascinating.

> *Note by the Editor:*
> Mr. Wister's paper contains an outline of the history of the achievements of various Iris originators under the above heading which will be published as a separate article in a future issue of THE FLOWER GROWER.

4. Cultural Directions.

Garden varieties of Iris are easily grown and comparatively few directions are needed in the older sections of the country. The introduction of varieties containing blood of new species such as *Trojana* and *Ricardi*, however, opens up new problems of climatic suitability, soils and culture. Many species which are now practically unknown in gardens, could be grown in many parts of the United States if their needs were understood. The Society should, through its test gardens in different parts of the country, collect and publish authoritative information on these subjects.

5. Pests.

Iris culture has been singularly free from serious diseases and insects. It would be folly, however, to assume that the Iris is immune from trouble, and the Society should by co-operation with entymologists and plant pathologists conduct research work on these subjects. The Iris worm or root borer is present in many parts of the country, root rot is often prevalent in wet seasons, but the two leaf diseases common in England have apparently not appeared here.

II. PRACTICAL WORK.

1. Test Gardens.

These are necessary for making descriptions, determining synonyms, judging varieties, and for making researches in cultural directions and in investigating insects or diseases. It is to be hoped that in time it may become the custom for new seedlings to be judged in these gardens by expert committees, before they are named and introduced, for while we would like to have breeders produce ten times or even a hundred times as many seedlings as they are producing at present, we must admit that at the present time too many varieties are being named and introduced. They fill our catalogues and our gardens and serve no useful purpose. High awards should be given to meritorious novelties, while the introduction of seedlings which have proven inferior should be discouraged, as should seedlings which while good in themselves are too close to existing varieties.

The New York Botanical Garden, Bronx Park, New York City, will establish next spring an Iris test garden, containing approximately two acres. The Director of the Garden has asked the Society to co-operate with him in establishing this garden and through his kindness this will become the Society's first test garden. Here there will be a permanent collection of all available species of Iris, and also of all available horticultural varieties to date. A special portion of the garden will be devoted to the testing of unnamed seedlings. Special committees of the Society will conduct various types of work in this garden, and members of the Society will be asked to contribute plants. The situation of the garden is ideal, and it will undoubtedly be visited by many thousands of people. The garden will be under the direct charge of Dr. H. A. Gleason, who has been one of the prime movers in the organization of the Iris Society.

It is understood that Iris exhibition gardens have been begun in St. Louis and Minneapolis. As the Society grows older it should co-operate in every way with the directors of these gardens and should endeavor to have a public Iris garden established in every large city. Additional test gardens should also be established in the different climatic sections of the country.

2. Iris Shows with Suitable Prizes.

The Society should hold its annual meeting each year at Iris time and should hold an exhibition in connection with the meeting. Here prizes should be offered to nurserymen, professional gardeners, amateurs with large gardens, amateurs employing no gardener, and novices. There should be special prizes for some of the newer varieties and for seedlings. This meeting should be held in a different locality each year. As the Society grows it should be possible to hold shows in different parts of the country during the same season. Besides this, as far as its finances will admit, it should offer prizes for exhibitions of Irises at local shows throughout the country.

3. Publicity.

All reports of the work of the Society should be published, either in an Iris Society page in some established horticultural paper or in Bulletins published by the Society. In addition the Society should assemble a complete library of books, special articles, photographs, and lantern slides, and it should lend or rent these to garden clubs and horticultural societies throughout the country. It should also furnish speakers to give talks before horticultural societies, botanic societies, and agricultural colleges, etc.

* * * *

We believe the Society will be a boon to the amateur, by giving him more knowledge and, therefore, more interest and pleasure in his Iris.

We believe it will be a boon to the breeder, in pointing out past breeding experience, and suggesting ideals for which to strive; in testing his seedlings in a large variety collection; and in offering suitable rewards.

We believe it will be a boon to the nurseryman in creating a demand for Irises; in encouraging the introduction of really meritorious novelties; and in discouraging the introduction and propagation of undesirable kinds.

Hardy Perennials.

By H. C. Christensen, before Minn. State Hort. Society.

Of late years the herbaceous perennials have been growing more and more in favor both as border plants and also for cut flower purposes. There are good reasons for the popularity of this type of plant. The fact that they do not need replanting every year; their sturdiness of growth, thus requiring less care than annuals or tender bedding plants; the long period of bloom that may be had by a careful selection of varieties, and the varied forms and colors of flower are some of the points that recommend them to the grower. While most of them are easily grown, they quickly respond to good cultivation, and although they ordinarily survive our winter, they are greatly benefited by the protection of a mulching of coarse litter. Soil and location have much to do with hardiness. Some varieties will be perfectly hardy when grown on a well drained soil and in a sheltered location and will almost invariably winter-kill when the soil is heavy and poorly drained.

The list of perennials is so long that only a few of the more desirable varieties can be mentioned.

Queen of all hardy flowers is the Peony. A close second to the Peony of late years is the Iris, or fleur-de-lis. Its tall, stately flower, in wonderful combinations of blue, violet and white, delicately veined with gold bronze and purple, make it a regal flower, and its sword shaped foliage of silvery green makes it ornamental when not in flower. The so-called German varieties are most suitable for this part of the country. They like a dry and rather heavy soil. Fall or late summer is the best time to plant the bulbs or rhizomes. *Florentina Alba*, a pale lavender, fading to pure white, is the earliest to bloom and may be had in flower by Memorial Day. *Celeste*, pale blue; *Pallida Dalmatica*, deep blue; *Madam Chereau*, white, lilac edged; *Queen of May*, rose; *Iris King*, yellow and brown, are some of the best of the older varieties. A great many hybrids have been introduced of late years, some of them superior to but most of them no better than the varieties I have named. If you have a moist, well sheltered location you can grow the Japanese Iris. These are the most gorgeous of all the Iris family.

The Phlox is one of the most showy of our perennials. The size of the florets and brilliant colors speak well for the skill of the hybridizer. It is a plant that succeeds well both in the sun and partial shade. Of late years the red spider has troubled it a great deal. Transplanting it to an entirely new location early in the spring before growth starts seems to help somewhat.

The Columbine is a great favorite with many and it is perfectly hardy. It comes in all shades of red, blue and white. There are singles and doubles and all lengths of spurs to none at all. The long-spurred hybrids have upright flowers placed on slender stems, which make them especially desirable for cutting.

A plant that has recently come into favor again is the Delphinium, or Larkspur. Its stately spikes of bloom in all shades of blue are very striking. The Belladonna hybrids in shades of lavender and the Chinese Larkspur in white and blue are best for cutting. The Formosum hybrids are tall and are good for the border.

One of the earliest flowers to bloom in the spring is the Iceland poppy. It is different from most poppies in that its flower will last a week or more when cut and placed in water. Its fragrance is pleasing and it comes in shades of yellow and red. Its giant relative, the Oriental poppy, is probably the most showy of garden flowers.

The Pyrethrum is the first of the daisy-like flowers to bloom, often in time for Memorial Day. In color it shades from red to white. The singles are easily raised from seed, but if fine doubles are wanted it is best to secure plants of named varieties. Pyrethrum *uliginosum* is one of the latest fall daisies, and its white flowers with yellow discs are good for cutting. Shasta daisies and chrysanthemum maximum and latifolium fill in between.

The Gaillardia, or blanket flower, is exceedingly showy and attractive and comes in shades of yellow and maroon.

Gypsophila, or baby's breath, with its numerous small white flowers, is very useful as a cut flower to mix with other varieties. The double flowered, lately introduced, is an improvement on the single.

Of the various Hemerocallis, *Flava* or *Lemon lily*, is probably the favorite. Apricot is an everblooming, very similar to *Flava*.

A continuous display of bloom beginning as soon as frost is out of the ground in the spring and continuing til frost stops growth in the fall is desired by all flower lovers. Mrs. Hammond's article on page 7 will prove extremely helpful to those who are desirous of working out a continuous display of bloom from the perennials. We are in hopes to be able to present still further articles on this subject. A flower garden which will yield continuous bloom needs encouragement.

How Flower Exhibitions are Judged.

In regard to the comparative merits of flowers or plants on which the judge's final decision is based at any well conducted flower show, it should be pointed out that they are about six in number, namely, (1) Form, (2) Color, (3) Size, (4) Condition, (5) Substance. In the case of some flowers fragrance is often considered of importance. In addition to these main points there is also the question of uniformity, as well as that of setting up or arrangement.

In order to make oneself clear as to what is meant by the terms mentioned, the best method is to define them in the briefest manner possible.

Form—Ideal form is that which most closely approximates certain ideals which the judge has in mind of a perfect specimen of the variety of flower which he is judging. For instance, a Rose of perfect form should have symmetry, certain uniformity in the arrangement of petals, together with either length of bloom or width of bloom, according to the class to which it belongs, and a few other characteristic features.

Color—Certain varieties have characteristic colors, and any specimen which does not show true has to be disqualified by the judge. A perfect color has been defined as one which lasts for a long time without fading and which is rich and attractive rather than dull. Some red flowers in particular have a habit of fading out, very soon after they are full bloomed, to a very displeasing shade of magenta. It is necessary, therefore, that flowers which are too full bloomed should not be selected.

Size—As a rule, size indicates a certain amount of cultural skill and successful care on the part of the exhibitor. Size, however, in some cases may not be a desirable characteristic. This statement, however, may be more true in connection with fruits than with flowers. Large-sized flowers, other things being equal, stand a better chance of winning the prize. With fruits, the reverse may be the case, as those of large size may be too poor in quality.

Condition—Condition may be briefly described as relating to the vigor and freshness of the flower. It must not be too open and must be free from blemishes, which point has already been referred to.

Substance—Substance is very often an important quality in a flower. For instance, a Rose of good substance is always favored by a judge in preference to one which has thin petals and consequently becomes flabby and shapeless. The same remark is also true with regard to many others.

Fragrance—Fragrance is a point which the judge only considers in connection with certain fragrant kinds of flowers. For instance, fragrance would not be a point considered in Asters and Gladioli. It may, however, be of considerable importance in an exhibit of Roses.

Uniformity and setting up—Uniformity with flowers, as with fruits or vegetables, is something that no exhibitor can afford to overlook. He must in all cases choose specimens which are uniform in all respects. It is of little use for an exhibitor to think that by putting two or three abnormally large specimens in with the others, the exhibit will be benefited by so doing. On the contrary, the fact that the five or six specimens, as the case may be, are not uniform will detract considerably, and the judge may not observe it further than to note that the specimens are not uniform and are not therefore in the running.—*Canadian Florist.*

We have in hand a large accumulation of good material which is necessarily carried over until the February issue. We can, however, always use good original matter to advantage.

THE PEONY

The Modern Garden Flower.

By Frank B. Meyer

(in *Gardeners' Chronicle.*)

THE PEONY is the finest and most valuable plant for the modern garden. In pronouncing it such the writer does not refer to the old-fashioned red "Piney." Nor has he in mind the many other pink and white ones that are rather abundant in some dooryards. Nor yet does he mean those that are sometimes offered for sale on store counters at ten cents a root. And he does not advocate the planting of all the named varieties that are advertised in nurserymen's catalogues, for the recent vote of the more than two hundred and seventy-five members of the American Peony Society has ranked many of these below 5% on a scale of 10, and indicates that they ought to be discarded altogether. It is not strange, however, that some growers who have a stock of them are loath to throw them away, for they please some people who do not know the more excellent sorts, and the Peony is propagated by division of the root. This is a slow process and a stock of a really meritorious variety can not be worked up in a hurry to take the place of one cast aside. For this reason the superior varieties, with the exception of a few of the older ones that are not yet entirely displaced by some of the wonderful new ones, are not of low price. But they are worth their cost, even from the mercantile point of view. The writer is acquainted with a man near a large city in Ohio who, from a small tract of ground has annually realized, within a few days in June, from the sale of blooms, over $3,000 in cash. He has sold many roots also to persons who, seeing the splendid flowers, "simply must have some" growing at their own homes. He wisely planted only very choice kinds and his investment has paid well.

The Peony is rapidly taking the place in popular esteem heretofore occupied by the Rose. Its popularity, among those who know it, is attested by the fact that the American Peony Society holds annual conventions at which hundreds of dollars are distributed as prizes. A citizen of Akron has in the past five years spent a fortune in gathering what is perhaps the finest private collection of this plant in the world. He has in his grounds over 600 varieties, the majority of which are represented each by ten or twelve specimens. For some of his plants he has paid as much as $25 each. And a business man, Mr. Lee R. Bonnewitz, of Van Wert, Ohio, is so great a Peony "fan" that every year, after attending the convenvention, he publishes and distributes, at his own expense, a large printed letter in an effort to help others to enjoy the delights that he finds in his hobby.

There are several factors that contribute to the Peony's rise in popularity. Tarkington Baker, an authority on gardens, declares, "No flower is richer in beauty than the herbaceous Peony, and none is more easily raised by the amateur." It is not injured by freezing. The editor of the *Garden Magazine,* commenting upon the condition in which gardens were found in the spring of 1918, wrote: "Last winter was the greatest vindication of *hardy* plants, particularly Peonies." Then, too, it is practically immume to injury by insects or disease. It thrives in full sunshine and in partial shade. When once planted it may be left to increase in size and beauty and profusion of bloom for a generation or more. The fragrance of many varieties almost equals that of the sweetest Roses. The blooms keep in water better than perhaps any other flower of value. If cut in the bud stage it can be packed tightly into boxes and sent long distances to open as perfectly as it would have done upon the plant. In cold storage the buds may be preserved five or six weeks. By careful selection from such a list as the following it may be had in bloom in the garden for six weeks.

The list gives the best, and generally most satisfactory sorts arranged according to color and time of blossoming. None of the very new and high-priced varieties, however, are contained in the list, with the exception of the one that is very desirable on account of its remarkable dark color. Those marked ** are among the first twelve Peonies, according to the vote of the American Peony Society. Those marked * rank very high. The others all have distinctively charming beauty or other value. All have strong growth and bloom freely. All except three grow tall and bear flowers upon long and strong stems. These three, *Octavie Demay, Marie Lemoine* and the *Officinalis,* are somewhat dwarf in comparison with the others.

WHITE.

**_Festiva Maxima:_ Rose type; paper-white; center marked crimson.
Duchess de Nemours: cup-shaped; sulphur and greenish-white,
Mme. de Verneville: bomb type; pure white; tipped carmine; free-flowering.
*_James Kelway:_ loose rose-type; rose-white; very fine.
**_Baroness Schroeder:_ rose-type; flesh-white and baby-pink; rose fragrance.
*_Albatre (Avalanche):_ crown type; snow-white; lovely carmine penciling.
Marie Jacquin: semi-dbl. (Water Lily); rose-white; golden stamens.
Mons. Dupont: flat rose type; milk-white; large crimson splashes.
Couronne d'Or: rose type; tipped carmine; showy golden stamens.
*_Marie Lemoine:_ rose type; ivory-white; cream center, massive.
*_Grandiflora:_ flat rose type; rose-white or sea-shell-pink.

PALE AND MEDIUM PINK.

Octavie Demay: flat crown type; very pale pink; dwarf; charming.
**_Mme. Emile Lemoine:_ globular; glossy white and satiny pink; lovely.
*_Asa Gray:_ high rose type; imbricated petals; rose and pale lilac.
La Perle: globular; very light pink; blush and carmine; pretty.
*_Venus:_ high crown type; very delicate pale pink; rose fragrance.
*_Mme. Emile Galle:_ flat rose type; sea-shell pink, heliotrope and lavender.
*_Albert Crousse;_ bomb type; formed like a carnation; sea-shell pink.
Dorchester: rose type; delicate hydrangea-pink.

DEEP PINK.

Edulis Superba: loose rose type; even dark pink; rose fragrance.
**_Mons. Jule Elie:_ ideal glossy pink and silvery rose.
*_Claire Dubois:_ rose type; clear violet-rose; silvery; lacinated petals.

RED.

Officinalis: brilliant crimson; good for landscape effect.
*_Mons. Martin Cahuzac:_ semi-rose type; dark garnet; back reflex; striking.
Felix Crousse: bomb type; clear brilliant red.
*_L'Etincelante;_ single; bright purplish carmine; like a Darwin tulip.

YELLOW SHADE.

Philomele: soft pink with golden yellow center; distinct; good keeper.

The Peony should be planted in the fall, before the end of September, if possible. The soil should be very deep and rich. But manure, if used at all, must be well rotted and thoroughly mixed with the soil some time in advance of the planting; or it may be put in a thick layer in the bottom of a trench and then covered with a foot of soil in which the plants will be set. Bonemeal is most lasting and safest, for it does not injure the roots, as manure is apt to do, when it comes into immediate contact with them. The eyes should be so covered with earth that they are buried not more than two or two and a half inches when the ground has settled. During the first winter they should be overspread, after the ground has been partially frozen, with a protecting mulch to prevent their being lifted out by alternate freezing and thawing. From that time on they need no care other than the ordinary cultivation of the soil.

Mrs. Pleas' Estimate of Her Own Peonies.

BY SARAH A. PLEAS.

[*Written expressly for The Flower Grower.*]

[The following has been extracted from a letter written by Mrs. Pleas to the Editor and it is published with her permission. The article on our front cover page in the December issue entitled "A Plea for Seedling Peonies," and the verses on page 124 entitled "The Peony and the Sparrow," were both written by Mrs. Pleas when in her eighty-fourth year. The Pleas Peonies are so well known that they need not be mentioned. Pleas *Jubilee* Peony is one of the best known high class standard varieties. A discussion of her own varieties by the originator after a lapse of years will certainly be interesting to Peony growers.]

As for myself I sold for early spring planting exclusively until I got the florists interested and they soon discovered fall was the better and more convenient time as to weather; and the roots are not then trying to grow. But roots set in the spring will bloom better the next spring, than those set next fall. That is, the sooner they are planted the sooner you will have bloom. They start into growth very early before the weeds, so should be set soon as ground thaws if possible, and yet they will live and do well if they have made a few inches growth.

Mrs. Pleas' Peony *Little Nell*, photographed with the original Little Nell for whom it was named, after she had grown up.

In having my plants here reset, the labels were removed and the record lost, much to my chagrin and deep sorrow, so I can have no idea what any one is, but the few that have bloomed. Of these *Elwood Pleas, Queen of the Pleasance, Quaker Lady* and *Wild Rose* are unmistakable, happy to say. While there will be a majority in every 1000 seedlings that could be appropriately named *Wild Rose* my own sold under that name, is by far the largest and best I have seen and I did not bring any other single pink one here. It should have 7 or 8 blooms on each stem, the largest full 9 in. across with a 3 in. downy golden cushion in the center entirely concealing the stigmas which others do not.

Elwood Pleas is as yet the prettiest solidly double, light shell pink, similar but larger and more floriferous than Richardson's *Grandiflora*, a close rival. This has never once failed to bear 6 to to 9 blooms on each stem, for me, of largest size. *Jubilee*, *Opal* and *Jewel* are very similar, all full double white. No one can surpass *Quaker Lady* in delicate beauty. It is a large, fluffy, full double pure white suffused with lake or crimson, prettier if that is possible, than a pure white, just tinted, and does not fade whiter. *Gem* is my own best deep crimson, quite similar to *Grover Cleveland*, and there is no better of its color. None have so broad guard petals as *Mary*, favoring a large ball before opening into a solid double center, half globe, the guards extending like a saucer with an inverted cup, all one shade clear pink. No other is so pure a pink. *White Swan* is by far the prettiest snow white single, having light green, smooth carpels, fully exposed, with pure white, hooked tips, surrounded with its golden stamens, the contrasting colors, white, yellow and green are exceedingly beautiful.

I am very partial to the little Japs, for their long season of bloom, their oddity and their delightful fragrance. *Novelty*, first called *Alpha & Omega*, because "first and last" the longest in bloom, very sweet, white with shades of pink, rose and yellow, with stamens showing, 4 storied. My *Altar Candles* is well named clustered chandeliers, burning without consuming sweetest incense from Sabbath to Sabbath, growing more beautiful in death, when it scatters its candles of alabaster purity without extinguishing their flame, on the bosom of mother earth as a sacrificial offering to its foster mother. They rattle off like so many toothpicks before wilting.

Dr. Edgar Pleas is another even prettier little Jap, with fine clusters of bloom, light pink guards, center petaloids bright canary, fading white when at its best. After plant is strong the narrow yellow petaloids put on airs by developing a wide, curved plume of pure white, much wider than the yellow petaloids themselves, midway on the petaloids; resembling the plumes on the "Mums," hence its name. I first called it *Ostrich Plume*.

Before coming to California, I sold most of my best kinds to Mrs. William Crawford, La Porte, Ind., then an amateur, now a professional and an enthusiastic member of the American Peony Society. She has made a very close and careful study of the best kinds on the market, trying such as she thought the best and may be depended on to send good plants true to name. She is a worthy devotee, donating her entire cut of bloom to the Red Cross fund in her town, cutting all bloom herself, she turned over $60 at night on Memorial Day, so said the public press.

I have 15 or more good ones, fully as pretty to the genuine beauty lover: *Sarah*, *Ralph*, *Lady Emily*, *Rosy Morn*, *Lady Iris* and *Midsummer Night's Dream* with *Madam Pleas* are among the best.

I never had but 1,300 all told of my own seedlings. Any boy or girl may do as well in growing seedlings. We do not *wait* for results, we plant and they do the waiting, and remember a Peony lives for generations, if not killed. Elwood Pleas and I had been married near 50 years when we planted ours. *Jubilee* was our golden wedding Peony.

One of the most experienced Peony growers in the West advises against the use of barnyard manure on Peonies, and states that some varieties have been killed in this way. Too much fertilizer, animal or commercial, such as bone meal, lime, &c., is likely to cause indigestion just as surely as an all cream diet will cause the stomach-ache in a baby.

The authority above quoted advises to plant in new ground and cultivate thoroughly, cover with forest leaves and let them rot and work them into the soil between the rows. Cultivation should not be deep enough to disturb the roots. When plants are four to six inches high a handful of hard wood ashes evenly spread in a circle around the plant, and not on the plant, will give better stems.

Peony Seed.

Peony seed for planting must be picked as soon as it is brown. If allowed to dry it will take much longer to germinate if it will germinate at all. As soon as picked, put in sand or soil until time to plant—this prevents its drying.—*Wisconsin Horticulture.*

History of Gladiolus Primulinus.

Gladiolus lovers in this country (and they are legion) will be interested in the following account of the origin of the Primulinus Hybrids which appeared in the *Gardeners' Chronicle* of England:

"It may be desirable to place on record, before they are forgotten, the facts connected with the origin of the Primulinus group of Gladioli, as it comprises some of the most beautiful and decorative flowers at present grown.

During the construction of the important railway bridge across the gorge of the Zambesi, in Rhodesia—of which Sir Charles Metcalfe, Bart., and Sir Douglas Fox and Partners were the engineers the resident engineer, Mr. S. F. Townsend, found certain flowers, which were growing under the spray of the Victoria Falls, and which seemed to thrive notwithstanding the deluge of water which very soon soaked the discoverer to the skin during his efforts to obtain them.

Being a gardener, Mr. Townsend kindly sent, in 1902, four corms, by post, to me but not knowing what they were, he was unable to give any clue as to the treatment they required. As, however, they came from Central Africa, and were therefore accustomed to heat, and to almost continual moisture from the Victoria Falls, my head gardener, Mr. John Richards, and I decided that we would afford them a high temperature and wet treatment.

On December 1, 1903, we were rewarded by the appearance of three or four spikes of bloom of a delicate and beautiful form, with leaves very similar to those of Montbretia the plants standing about two feet in height. The flowers were of a rich, butter yellow, self colored, with five petals, the center petal of which was bent down or depressed, forming a hood over the pistil and stamens and thus protecting the pollen from falling spray. It was evidently due to this peculiarity, and provision of such a remarkable character, that the plant thrived and increased under apparently most unpromising conditions. One of the spikes was immediately sent by messenger to the then Director of the Royal Botanical Gardens at Kew, Sir William Thiselton Dyer, and a letter was brought back of which the following is an extract:

"December 1, 1903—Your beautiful specimen arrived in perfect condition and gave us all much pleasure. It is a Gladiolus of a type which is rather widely spread in tropical Africa and comes apparently very close to one named G. Primulinus, but from an horticultural point of view it seems to us quite unique and a brilliant discovery. I hope, if you are disposed to part with any of them, you will give Kew the first chance. It ought to be the starting point of a new race of the garden Gladiolus. I must congratulate you on the brilliant success of your cultural treatment, which could not have been surpassed here."

Some of the corms were then sent, not only to Kew, but to the Physic Garden at Chelsea, to the Botanical Gardens at Cambridge and Edinburgh, as well as to growers of Gladioli, such as Messrs. J. Kelway & Son, and R. Wallace and Co., in England; to Groff, of Simcoe, Canada; and also to Holland, Belgium, and the United States, as it was felt that it would be in the interests of horticulture and all flower-loving people that the widest publicity should be given this plant. This form of G. Primulinus was illustrated in *The Gardener's Magazine*, Sept. 3, 1904, under the name of Gladiolus *Maid of the Mist*; and in the *Botanical Magazine*, t. 8080 (June, 1906.)

Attempts were made at once to hybridise the plant, crossing it with Gladiolus gandavensis and others, and in about three years some of the most beautiful plants resulted, the flowers ranging from pure white to butter yellow, with rich carmine, reds, browns, and cream tints, and others with yellow segments streaked with red. The interesting fact that the hooded petal is retained, and that the lovely yellow of the African plant is the predominant color, add greatly to the beauty of the flowers.

The vigor and physique of the English varieties were imparted to the following generations, with the result that certain plants have grown to a height of eight feet.

For decorative purposes, I know of nothing to surpass these new additions to our flower garden; a few spikes in a suitable vase, placed in the center of a table, with electric light falling on them, form an exquisite picture, and fully corroborates Sir William Dyer's prediction that G. Primulinus would prove the commencement of an entirely new family of Gladioli.

From the above it will be seen that a period of seventeen years has elapsed from the date of discovery.

We learn that the time and place of the meeting for organizing the American Iris Society will be at 11 A. M., Jan. 29th, 1920, in the Museum Building of the New York Botanical Garden, Bronx Park, New York City. The Botanical Garden is reached by the Third Avenue Elevated, Bronx Park Station; or by Subway to 149th St., Third Avenue, transferring there to the Elevated; or by the Harlem Division of the New York Central Railroad, direct from Grand Central Station to Botanical Garden Station.

Queries and Answers Department.

"All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication."

Do Gladiolus Corms Absorb Nutriment from the Stalk After Digging?

To the Editor:—

I wish to inquire if it is the judgment of experienced growers of Gladioli that corms absorb nutriment from the stalk after the roots have ceased to function, and if not, why may they not be dug at that time quite as well as when the tops have utterly dried?
A. R. S.

Answer:—We believe it is the judgment of the best Gladiolus specialists that Gladiolus corms do not absorb nutriment from the stalk after the roots have ceased to function, but we are not so well satisfied that the roots cease to function when the weather turns cold in the fall or even after frost has cut the foliage. In fact, we believe the roots are working as long as the corm remains in the ground unfrozen, and bulblets are developed thereby.

It is correct practice that tops should be cut off Gladiolus corms immediately when dug and this would indicate that the corm is not benefited by leaving the tops on after the roots have ceased to function. In the North we never think of waiting for the foliage of Gladioli to ripen before digging the corm. In fact it is only during an exceptional season like the one just past that any considerable proportion of Gladiolus tops ripen before digging. With us a severe frost kills the foliage to an extent which makes it undesirable to leave the corm in the ground longer although we believe that there is considerable growth of bulblets after the foliage has ripened or been killed by the frost.

Madison Cooper.

Do Very Small Gladiolus Cormels Germinate Well?

To the Editor:—

Do the very small cormlets not larger than seed pearls ever amount to much when planted?
S. A. R.

Answer:—The smallest cormels if sufficiently matured will grow if stored under favorable conditions and planted under favorable conditions, but it may be said that the very small ones generally have less vitality or strength to germinate than the larger ones. It is our practice to screen small stock and cormels on a $\frac{1}{8}$ in. mesh screen, believing that the little fellows which will pass through such a fine screen with the sand and dirt are of little or no value. Generally the very smallest are immature, hence they lack vitality, but some varieties make very small cormels anyway and this statement cannot be made accurate as applied to all varieties.

Time from Planting to Blooming.

To thf Editor:—

Where can I get a list of the time required to flower the various varieties of Gladioli? I went by Peter Henderson's catalogue this year and the time they give is not long enough by almost two weeks.
J. M. F.

Answer:—The files of The Modern Gladiolus Grower and The Flower Grower contain records of time from planting to blooming of Gladioli. No such complete information on this subject can be found elsewhere. It might be stated, however, that exactness cannot be depended upon in this connection as so much depends on size of bulbs, weather conditions, and other influences. An average of the various records which have appeared from time to time will doubtless give information of value and it is our purpose to tabulate these records when we can get to it.

Gladiolus Seedlings.

To the Editor:—

Are Gladioli from seed, each and every one, a new and distinct sort as with Dahlias?
M. J.

Answer:—Yes, seedling Gladioli may be said, each and every one of them, to be an entirely new and distinct variety. While seedlings often resemble one of the parents strongly, and some of them seem to be almost identical, yet strictly speaking they are distinct.

Fertilizer for Gladioli.

I have a supply of fertilizer for which the formula, as marked on the bags, is as follows: "Nitrogen, two to three per cent; available phosphoric acid, nine to eleven per cent; potash; K_2O." Will you kindly let me know whether this fertiltzer, with wood ashes added to it, will do for Gladioli? Should barnyard manure also be used in conjunction with the commercial fertilizer? Please state, also, how much of the ashes should be used per 100-pound sack of the fertilizer.
R. M.—Wis.

Answer:—The question as to whether stable manure should be used for Gladioli, or for any crop for that matter, and as to what amount should be applied, would depend entirely upon the nature of the soil. Such manure is especially desirable upon land deficient in humus and there are few soils on which it cannot be used to advantage. Unless the land has been heavily manured in recent years, it will probably be advisable to apply ten to twenty tons per acre, of well decomposed manure, which should be disked into the soil. If the tract is a clover sod or is well supplied with humus, ten tons will be sufficient per acre, provided commercial fertilizer is used with it.

The formula as given shows the amount of nitrogen and phosphoric acid, but no percentage of potash is stated. From the fact that the scarcity of potash has made it difficult to obtain and the price has almost prohibited its use in fertilizers, the amount is not likely to be more than one per cent, and this may be ignored in determining the amount of the fertilizer desirable.

A good grade of unleached hardwood ashes should contain about five per cent of potash and one and one-half per cent of phosphoric acid. Just how many pounds of wood ashes should be used per acre will depend upon the cost. Good results may be secured with 1,000 pounds per acre, and two or three times that amount would do no harm. Since the potash and phosphoric acid will not leach from the soil, they will be available for future crops if a larger amount is applied than will be used by the crop of the present year.

In connection with ten tons of stable manure, we would suggest the use of 1,000 lbs. of wood ashes—hardwood, unleached—and 500 lbs. of the fertilizer mentioned, per acre. Provided a good grade of unleached hardwood ashes can be obtained for not to exceed \$8 or \$10 per ton, as is possible in many places where wood is commonly used for fuel, we would use one ton of wood ashes per acre, with 12 tons of manure, and would not use the other fertilizer.—*Florists' Review.*

Begonias from Seed.

To the Editor:—

Would Prof. Massey tell us the name of the Begonias he raises from seed and has blossoms all Summer? I cannot find anything in the catalogues that seems to answer the description.
F. H.

Answer:—The Begonias used for bedding are known by the general name of Everblooming Begonias and Bedding Begonias. There are named varieties, but I grow mine from seed that I save every Summer from the beds, and seldom keep any plants over Winter. There are named varieties of which you can get the seed or the plants from the seedsmen. These are *Erfordia, Prima Donna, Luminosa, Vernon* and *Salmon Queen.* My mixed seed gives me flowers varying in color from pure white to crimson. They are never out of bloom Winter or Summer if grown in pots. You will find them listed in most of the leading catalogues. If you want beds of one color it will be necessary to buy seed of the named sorts, though the mixed seed can be had cheaper.—W. F. Massey in *Rural New Yorker.*

Shrub with Red Berries in Winter.

To the Editor:—

Will you kindly let me know which is the best shrub to plant in the fall or spring having red berries through the winter? I have lots of flowering shrubs, but none with berries, and would like to get a real good one that looks pretty through the late fall and winter months.
H. Z.

Answer:—If you have not already Berberris Thunbergi or Japanese Barberry you should surely plant it for the fall and winter effect. The flowers while of no special value as flowers, yet the shrub itself is a very beautiful one and the coloring of the leaves in the fall makes a magnificent display. When once well established in fertile soil it will make a great many red berries which are held well into the winter. Japanese Barberry is especially hardy here in Northern New York, and we have several hundred feet of it in a hedge and it is one of the features of our grounds.

Madison Cooper.

Treatment of Gladiolus Cormels Before Planting.

To the Editor:

Please suggest the best treatment for cormlets, large and small when planting.
A. S. R.

Answer:—Our practice in planting

cormels is to not give them any special treatment, but we see that they are stored in moist sand for at least a month before planting. Indeed, if some of the cormlets sprout before planting it does not seem to be any disadvantage. It is common practice to store cormels after separating from the corms in sand which is a little moist, but if the cormels are green and not cured much we believe that placing them in dry sand for a short time to prevent molding is better practice than to place them in damp sand. After a few weeks they may be transferred to sand which is slightly moist.

Various plans are resorted to for treatment of cormels before planting, some growers soaking in cold water for two or three days and still others soaking them in warm water for twelve hours or more before planting. Cormels, if rare and valuable, may be pealed before planting.

Madison Cooper.

Vitality of Gladiolus Corms from Bulblets.

To the Editor:—

I am told that bulblets from bulblet grown stock produces weak corms and that only bulblets from large sizes should be used to increase stocks. The same party tells me that they do not use the bulblets from small stock to increase stock in Holland. Is this a fact? J. M.

Answer:—We have never heard, nor have we ever noticed in our experience that bulblets from bulblet grown stock produce bulbs essentially different in constitution than bulblets from the larger sizes. In fact we have always mixed the bulblets from the different size stock without thinking that there was any difference and so far as we know there is no difference. It would seem that the advantage, if any, was in favor of bulblets from the small stock as it is well known that the younger the stock of a given size the better and stronger it is.

We have submitted this question to a Holland grower of experience and he writes about as follows:

"In Holland everyone likes to have bulblets from bulblet grown stock, because it not only germinates better, but makes healthier bulbs than bulblets from old corms. I know this myself from experience, and this year in planting bulblets from bulblet grown stock of *America, Panama, Halley, Mrs. Francis King, Niagara, Schwaben, Prince of Wales* and *Glory of Holland*, I secured some remarkable increase. Over 60% of this bulblet grown stock was one inch or more, and all bulblets from bulblet grown stock that were planted. This surely does not show weakness."

Next month we will have something to say on the subject of shipping perishable goods by Express or Parcel Post. Many growers of flower stocks do not properly pack their goods for shipment and much damage is caused thereby.

Self-Pruning in Plants.

BY WILLARD N. CLUTE

(in New York *Sun*)

THE GARDENER frequently finds it necessary to bring his plants into shape or otherwise modify them by removing various twigs and branches. As a matter of fact a number of economic plants, such as grapes and raspberries, will not produce full crops unless subjected to an annual pruning of this kind. Opinions differ as to whether all plants are benefited by such treatment. Conifers when standing alone should never be pruned, for the branches rising from the ground in pyramidal form prove one of their chief attractions, but when used for hedges, as several species are, they may be sheared into almost any form desired. Lilacs are other shrubs that need little, if any, pruning, but the great majority of our woody perennials seem all the better for an annual trimming; indeed, the plants set the example themselves and yearly throw off certain parts unless man attends to the matter for them.

One of the most interesting of the trees that prune themselves is the well known cottonwood of the Middle West, represented elsewhere by its variety the so-called Carolina poplar. In late winter and early spring one may often find the ground beneath such trees fairly covered with small branches cut off by the tree. Hasty observers may jump to the conclusion that the winds of winter have broken off the twigs, but an examination will show that they have been as neatly cut off as one could do it with a knife. The tissue that cuts off these twigs is known as a cleavage plane or abscission layer. Under certain conditions it grows across the point of attachment and, being brittle, the fall of the twig results. The interesting feature of this operation is that it is the living and not the dead twigs that are pruned and though many twigs of the preceding season are thus removed specimens that have been growing for several seasons are found with the others. In this tree in particular it is easy to determine the age of the twig because the heavy bud scales falling off in spring leave a circular scar which plainly marks the end of a year's growth. Possibly a majority of our forest trees have this same habit of self-pruning, though in most cases it is less noticeable.

Another form of self-pruning that is practically universal is that connected with the fall of the leaf. This phenomenon is very familiar in our broad-leaved trees, which annually cast and renew their leaves. As is the case of the twigs, an abscission layer forms across the leafstalk or petiole and in compound leaves across the stalks of the leaflets as well. Frost does not cause the leaves to fall, as many people suppose, though the weight of the accumulated frost upon them may hasten the fall in some instances. That frost is really not the cause of leaf fall is shown by the behavior of tropical trees, which cast their leaves as regularly as those nearer the poles though they are never exposed to frost. Leaf fall in the tropics, however, presents a remarkable difference from the same phenomenon in temperate regions in that it does not occur in all trees at the same time. It depends upon the individual. One tree may throw down its leaves just as another near by is putting on a fresh dress; indeed, the different branches of a single tree may act thus, one or more resting while others are in full leaf. It is commonly believed that the evergreen trees do not cast their leaves, or, at least, do not cast them annually. This in a measure is correct. Some species cast their leaves annually, but others hold them for from five to ten years. The limit in this line is a remarkable plant of West Africa known as welwitschia. This species has only two leaves, each of which is several feet long, and these are retained during the life of the plant, which may run to fifty years or more!

The most noticeable form of self-pruning in spring is that by which superfluous blossoms and young fruits are thrown off. Many plants appear to bear more flowers than could be supported by the tree if all should produce fruits, and when too many fruits set the surplus is promptly thrown down. Several parts of the flowers, the petals and stamens for instance, are temporary structures useful for only a short time to the plant. When these have finished their usefulness they are cut off in the same way that leaves and twigs are. Ripe fruits fall from the trees for the same reason, and the shedding of bark, flake by flake, or in some cases in larger particles, may be included in our category.

There are a few plants in all climates that apparently have not acquired the habit of self-pruning. Most of the palms are unable to throw off their leaves, and when these have survived their usefulness they gradually die and hang down beneath the crown of living green. Some of the oaks of more northern regions have the habit only partly developed and retain many of their leaves until spring, when they are pushed off by the springing leaves of next season's crop. Certain fruits also remain on the bare branches through the winter, though this seems to be in some way connected with seed distribution, for when spring comes these fruits are thrown down as they are in other forms.

P. Vos & Son, New Gladiolus Firm.

Mr. P. Vos, well-known Holland Gladiolus Specialist and Hybridizer, of Sassenheim, Holland, who for many years has sent his catalogues to the United States and Canada under the name of Firma P. Vos Mz., came to America in the early spring of 1919, bringing with him his entire stock of Gladioli, a fine collection of hybrids and varieties of American, English, Holland, and German origin.

He associated himself with The United Bulb Co., Mt. Clemens, Mich., where his stock was planted. Together with the collection of the United Bulb Co., his seedlings and hybrids were exhibited at the Florists' Convention, held at Detroit, Aug. 19-21, where the Vos named varieties drew special attention.

This fall, of 1919, he has separated from said firm and associating with his eldest son, Mr. Gerrit Vos, who has lived in the United States for a number of years, now wishes to introduce himself to his American friends and clients. All correspondence must be sent to P. Vos & Son, Mt. Clemens, Michigan.

Mr. P. Vos has for many years paid much attention to the crossing of Gladioli, endeavoring to obtain new varieties, stronger in growth and purer of color than many so-called leading trade varieties of today. Every one that knows about Gladioli and who attended the Gladiolus Exhibition at Detroit will have seen that his painstaking labor has not been in vain. Some of the varieties originated by Mr Vos have already attracted much attention among Gladiolus growers and the firm has large stocks of other varieties of merit besides the Vos originations.

Don't overlook the very desirable varieties of Gladioli offered in collections in this issue.

Kunderd Sells Entire Stock for 1919-1920.

Mr. A. E. Kunderd, of Goshen, Ind., reports the sale of all the surplus bulbs of his entire catalog list for 1919–1920, and that he will not issue a catalog this season. The sale was made to the Nursery Department of the GoodHold Farm, of Mentor, Ohio, one of the largest farms and show places in the Western Reserve. It is situated on the main Chicago-Buffalo pavement, in West Mentor, seven miles west of Painesville.

The consideration of the sale is not mentioned beyond the fact that the price is the largest ever paid for one sale of Gladioli in the history of the trade.

Among the products of the farm are registered Holsteins, Berkshires, Percherons, finest field and vegetable, annual and perennial flower seeds, bulbs, perennial plants, and ornamentals. The nursery and seed department is under the management of Ralph E. Huntington, of Painesville, who is well known in the trade.

During the past season, some two hundred of the Kunderd introductions were planted on the road front of the farm, and proved a great attraction to the hundreds of passing tourists. None of the bulbs in this purchase will be resold this season, it being the intention of the management to increase these stocks, which have always been too small to supply the demand of the catalog houses.

It may be mentioned in passing that the stock of Gladioli and perennial plants at "GoodHold" will soon be the most complete in America, if not in the world.

Catalogues and Price Lists.

The Crawford Gardens, Mrs. William Crawford, Propr., La Porte, Ind.- Price list of Peonies and Perennials. A full list of the Pleas varieties originated by Sarah A. Pleas is given.

P. Vos & Son, Mount Clemens, Mich.—Price list with brief descriptions of the Vos named varieties of Gladioli together with some of the best recently introduced varieties, priced singly and by the hundred, various sizes and bulblets.

Joe Coleman, Ravenna, Ohio—Wholesale list of Gladioli. The Austin originations, the standard varieties, and the Coleman originations.

Richard Diener Company, Kentfield, Marin County, Calif.—1920 edition catalogue and price list of Diener's Gladioli, Petunias, Delphiniums, Dahlias, etc. Colored illustrations of exceptional merit are a feature of the catalogue. This catalogue should be in the hands of every flower grower.

Fred W. Baumgras, 423 Pearl St., Lansing, Mich.—Retail list of standard and fancy varieties of Gladioli. Also wholesale list for the trade.

F. R. Sawyer, 352 West St., Mansfield, Mass.—Price list of Gladioli. A fine selection of standards and new varieties.

G. D. Black & Son, Albert Lea, Minn.—Retail catalogue of Gladioli with unusually complete descriptions and a long list of varieties of merit.

The United Bulb Co., Mount Clemens, Mich. Retail list of high class Gladioli. A long list of very desirable varieties including Primulinus Hybrids. Also Dahlias.

Those who have occasion to ship perishable goods in winter should try to avoid the Christmas rush. Flower stocks of all kinds are considered perishable goods and should not be shipped for two weeks prior to Christmas time. There is great delay during the holiday season and perishable goods do not get prompt nor careful attention and often are allowed to stand on railroad platforms for hours at a time awaiting transfer. Don't forget this for next year.

CLASSIFIED ADVERTISING.

Five lines (about 40 words) $1.00 per insertion. Additional lines 15c. each.

PEONIES WANTED—Good division of each Le Cygne, Kelway's Glorious, Martha Bulloch, La Lorraine, Tourangelle and Mad. Jules Dessert for early spring delivery. Must be true stock and healthy roots. State lowest cash price or would exchange equal value in Gladiolus corms of the new and rare varieties. Madison Cooper, Editor THE FLOWER GROWER, Calcium, N. Y.

DAHLIA—KING OF THE AUTUMN—THIS NEW Holland variety is one of the finest of the late novelties. The color is new, distinct and very effective, being a soft buff-yellow suffused with terra cotta. The stems are strong and of great length and for either day light or lamp light it makes one of the most effective cut flowers yet introduced.

A limited quantity of strong field grown roots—Each $1, postpaid; 10 for $7.50, 25 for $15, via express collect. A. W. Beebe, Maplewood, N. J.

SPECIAL OFFER GLADIOLI—1 Mrs. Dr. Norton, 1 Crimson Glow, 1 Lilywhite, 1 Prince of Wales, $2, value, $2.65. Price list other varieties.
M. B. Hawks, 234 South St., Bennington, Vt.

IRIS—Its dainty color, exquisite fragrance, hardiness and ease of culture makes it a joy forever. Many choice varieties at list prices. A good mixture, 12 varieties at $5 per 100. Cash with order.
Mrs. Wm. Crawford, La Porte, Ind.

SPECIAL OFFER—Plump, healthy, vigorous bulbs per 100, postpaid—Mrs. Francis King, $2.50; Empress of India, $3.50; per dozen, postpaid: War, $1; Peace, 80c. Halley, 50c.; Sulphur Queen, 60c.; Schwaben, 80c.; and others.
Alfred Oesterling, Gladiolus Grower, Butler, Pa.

BULBLETS per quart, postpaid—Mrs. Francis King, Crackerjack, P. Hybrids, $1. Empress of India, Baron Hulot, Meadowvale, Sulphur Queen, $2. Please order from this ad. Retail list free for the asking.
Alfred Oesterling, Gladiolus Grower, Butler, Pa.

IF you are looking for the very best in flower and vegetable plants send me your name. You will find many interesting items in the price list now ready. Specialties in Asters, Pansies, Tomatoes, Perennials, etc.
P. L. Ward, Plantsman, Hillsdale, Mich.

HAVE about 3000 each of Halley, 1 to 1¼, ¾ to 1, ½ to ¾, ¼ to ½. Prices: $16, $12, $7 and $4 per 1000, f. o. b. here. America, Halley and F. King bulblets, 50c. B. Hulot, $1; War, $1.50 per 1000 Still have a limited quantity of planting sizes of them all.
F. M. Palmiter, Janesville, Wis.

CHOICE CLEAN BULBS—first size—America, Chicago White, Bernice, Crackerjack, Francis King, Halley, Columbia, Meadowvale, $2 per hundred, $18 per M.; ½ in. and under, $3.50 per M., 50c. per hundred. Bulblets 50c. per M.
P. A. Laeser, Sun Prairie, Wisc.

WANTED—Experienced grower of various bulbs—good chance for the future—location, Ohio.
Address, "Ohio Grower," care THE FLOWER GROWER, Calcium, N. Y.

WILL SELL entire stock of the following: A few hundred of America, Halley, Loveliness, Mrs. King, Panama, Titanic. A dozen or more each of Cameo, Crescent Queen, El Capitan, Etendard, Eucherist, K. Glory, Large Buff, Mahogany, Norma de Childs, Red Amarillas, Red Emperor, Pride of Goshen, White King, Blue Vista. Good discount on quantity.

Send for list of other varieties: B. L. Smith, Czar Peter, Kirtland, Hazel Harvey, Mary Fennell, Mona Lisa, Myrtle, 1910 Rose, Orange Glory, Prince of Wales, Rosella, etc.
E. M. Sanford, Madison, New Jersey.

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Mrs. M. B. Hawks, 234 South St., Bennington, Vt.

WANTED—Careful grower who understands the culture of Gladioli; preferably one who has had experience with other bulbs, and desires a chance to become a member of the firm. A fine chance for the right party. Address "Opportunity" care THE FLOWER GROWER, Calcium, N. Y.

EAST HARTFORD GLADIOLUS CO.—The printer has the proof of our 1920 Catalogue listing 45 Varieties of Gladioli and a long list of Dahlias. Send for it. E. M. Smith, No. 65 Olmsted street, East Hartford, Conn.

LABELS—Patent, paper, trees, shrub or rose label. Colors: white, green, blue and salmon. Plain or printed. A cure for those afflicted with label troubles. Samples. Ohio Nursery Co., Elyria, Ohio.

DO YOU like the colors, golden yellow, salmon, lavender, and pink and white, 1 each in 2 in. bulbs, Golden Measure, Prince of Wales, Mary Fennel and Mrs. Dr. Norton, prepaid for $5.00. Have small planting and bulblets in the following: America, Panama, Peace, Pendleton, Glory of Holland, Crackerjack, Halley, Independence and others; by the 100 or 1000. Fred C. Hornberger, Hamburg, N. Y.

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"I grow most all the best!"

Hence your name on my mailing list (if you grow **Gladioli**) will surely please us both.

L. S. KNECHTEL, Athol, Mass.

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Grower of Fancy
GLADIOLI
Send name for mailing list.
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W. F. SHEARER
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NEW
GLADIOLI
CEDAR ACRES
B. HAMMOND TRACY, Inc. - Wenham, Mass.

Though there are various reasons why people delay their planting of fall bulbs, the idea seems to be widely prevalent that, the nearer solid winter they can be planted, the better. The idea is false. Every day after early September that a bulb remains unplanted, it is losing strength, whereas, if planted, it is gaining strength. Next fall buy early, plant early.

ORONOGO FLOWER GARDENS, ∴ Carterville, Mo.

FLORA-CROFT GLADIOLUS GARDENS,

121 Island Ave., Lansing, Mich.

Descriptive retail catalogue or list of planting stock and bulblets mailed on request.

Choice Bulbs of the Best Varieties.

THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

Vol. VII
Number 2

February
1920

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
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INDOOR FERN CULTURE.

[*Written expressly for The Flower Grower.*]

By Bertha Berbert-Hammond.

THAT no foliage plant excels in grace and beauty a healthy, well-grown specimen of Fern is proved by the general use of Ferns for indoor decorative effect. Though this class of plants is usually vigorous and fairly easy to grow, many persons fail to obtain entire satisfaction, often due to the fact that the cultural requirements are not rightly understood.

Contrary to the usual accepted idea, the soil in which Ferns are grown should not be kept *continuously wet* and soggy, as such condition will, in time, cause the soil to sour, the roots to decay, and the foliage to turn brown. Moderate watering and sprinkling of the foliage about three times a week will usually be found sufficient. Occasionally, allowing the soil to become quite dry and then watering with lime-water until it runs out of the drainage hole, will tend to keep the soil in a sweet condition. Under the impression that dense shade is conducive to the best development of a Fern, a dark situation is frequently selected when, in fact, Ferns require sunlight part of the time, at least. A *few* varieties do well even in direct sunlight if some protection from the hot mid-day rays is afforded. Setting the pot containing the Fern into an outer pot and filling the intervening space with sphagnum moss will prevent the hot rays from beating against the sides of the Fern pot and injuring the plant and will also aid in conserving and equalizing the distribution of moisture about the roots of the plants.

GLADIOLUS—*GIANT FAWN.*

Originated by A. E. Kunderd, Goshen, Ind. Very large, deep fawn-yellow, faintly blush-pink bordered. Beautiful red line in throat. An extra large yellow. (Not ruffled.)

In a window where they receive the morning sun and are in partial shade some of the time most Ferns will thrive and develop into superb specimens. Hot, dry air is detrimental to Ferns, causing the fronds to dry off. Placing shallow pans of water about on radiators, registers or stoves will introduce moisture into the atmosphere and prove beneficial not only to the plants but also to the occupants of the room.

Occasionally, Ferns are attacked by a kind of scale causing the plant to present an unsightly appearance. When detected the scales should be rubbed off and the foliage immersed in warm soapsuds, repeating the operation if necessary. Should the foliage be badly infested, the infected fronds should be cut off close to the ground and cremated. A thin layer of top soil should be replaced by fresh compost and the surface lightly covered with chopped or powdered tobacco. The new fronds as they come up will be free of the pest and with a little care may be kept so. The seed spores which develop according to a regular method upon the underside of fronds, will not be mistaken, excepting by the most inexperienced, for these scales, which are of a different shape and appear at irregular intervals upon the stems and under side of the foliage.

Most Ferns delight in and require

for their perfect development a very porous, well-drained compost, consisting of equal parts of leaf mold, sharp sand, well decayed fertilizer and some substance like pulverized moss or spent hops to give porosity to the potting soil. Perfect drainage is very essential. As demanded by their growth, the plants should be carefully shifted into larger pots. Once in a while an application of weak liquid fertilizer or of water to which has been added ammonia in the proportion of about a half teaspoonful to the gallon, may be used to advantage.

With patient, intelligent culture it is quite possible to produce showy, vigorous specimen plants as fine as those so alluringly pictured in catalogues, providing that varieties suitable for window culture are selected. For this purpose, the varieties of Boston Fern (Nephrolepis exaltata Bostoniensis) are general favorities. The original Boston Fern is robust and will thrive in partial shade. Its numerous long, graceful fronds of drooping habit make it desirable either for use in a hanging basket or ordinary pot.

A striking contrast to the above with its fronds from two to four feet in length, is the very dwarf Muscosa whose compact foliage is of such a beautiful emerald green color.

Pierson's Boston Fern exhibits unusual beauty and is quite easily grown, but like many of the "plumed" or feathered varieties, it sometimes shows an inclination to revert to the original form when grown under conditions that are favorable to reversion. To counteract this tendency in a measure, pot the fern in well-drained porous soil that has not been enriched and remove any "plain" ferns that may present themselves.

The propagation of Ferns may be effected by the division of plants, by means of the seed spores or by planting the runners that form somewhat after the manner of strawberry runners.

Willow Gentian (G. *asclepiadea.*)

I often wonder at the scarcity of this Gentian in gardens, for it is a distinct and most valuable plant, sending forth freely its beautiful and numerous purple-blue flowers from the axils of its Willow-like leaves. For a long time past a group of it has been quite a feature, and although very much neglected during the war, the plants are again as beautiful as ever and flowering with the greatest profusion. Both the blue and white forms are growing together, and very pretty they look on sunny days when their blooms are fully expanded. Even in several so-called blue gardens I could not discover this charming plant. Moist, shaded positions are often recommended for it, and although it comes from the Mountain Pine woods of Europe, it is happiest with me in a sunny border where the soil is fairly light and warm. I saw some plants of it the other day growing in the foreground of overhanging shrubs, in which case they were drawn and taller than mine, but their flowering was very poor. With me it reaches a height of two feet six inches. The plants die down in winter, and if increase is required they may then be divided up and good results obtained the following year.—*Gardening Illustrated* (English).

Comments on the Iris Society Project.

AN IRIS SOCIETY is an accomplished fact, and yet, as I write, the date of the meeting for organization, (Jan. 29th) is still in the future. I can give no details of the momentous occasion and yet, if I cull successfully from our correspondence, you may find something of interest in the preliminaries.

Mr. A. J. Bliss, the foremost breeder of the Iris in England, writes under date of October 2nd:

> "Mr. Wister wrote to me that he was pretty sure they would succeed in forming an Iris Society. I hope so, but I quite agree with you that * * * it should certainly be international, and an annual journal and records and illustrations are quite possible—in fact can be done very well. I should hope also that it would take up the work of registration of varieties with the power to judge, and so (as far as its authority goes—and it should be unquestioned if rightly and fairly managed) be able to weed out obsolete and inferior ones. * * * Also I should like to see the classification tackled by a really wide and representative body such as the Iris Society would command."

This is a comprehensive program but the developments are much along these lines. Later he writes:

> "I shall be very pleased to do all I can to help. Do not hesitate to tell me anything definitely that I can do. I shall be glad to 'do my bit.'"

We have taken him at his word and I think that when our correspondence on standards of excellence, form of description, and definition of descriptive terms is considered and acted upon by the proper committee, his work will receive its due credit. The article on classification in the December 20th issue of *The Garden* (English) and notes on registeration in *The Gardeners' Chronicle* will be of great assistance as well.

Mrs. Dean, of California, wrote in late September:

> "Do the French and English have Iris Societies? (They have not) If so, we could form one, and all three combine into an international. Conditions are so different on this coast that we would be up against it with trial grounds in the east. It would practically be of little benefit to us, and I too am not so sure about trial grounds. * * * Mr. Mitchell of Berkeley has been anxious to have a society formed in this state, and also suggested a trial at Berkeley at the University. I have not encouraged it much, but now there is prospect of an organization to cover the whole field, perhaps it can be worked out satisfactorily."

Mr. A. C. Hall, of Pennsylvania, confesses to an interest in the check list, the standard description, and standards of excellence; Mrs. Samuel H. Taft, of Cincinnati, writes: "I will try to be a creditable member and know many who will join;" Mr. Mohr writes from California, "An Iris section in each Botanical Garden would be a great help—and create interest;" these are but a few of the many suggestions that have come in to us who are working for the society. Dr. Gleason, the Sec. pro tem., can undoubtedly add many more for I learn that well over four hundred announcements have been sent out.

Now for a word as to matters, which from present indications, will be brought up at the meeting in respect to the above comments. Mr. Bliss speaks of matters of policy and I think with the exception of the casual use of the word "international" the plans include all the points he mentions. The N. Y. Botanical Garden is to receive our assistance in the establishment of a complete Trial Ground; I expect that Prof. Beal, of Cornell, where work has already been started on the lines of the Peony and Gladiolus trials, may request co-operation also; and who knows but Mr. Mitchel, Mr. Christman, and Dr. Moore, of the Missouri Bontanical Garden, all of whom have considered at least a show planting of Iris will be represented at the meeting. The acceptance of all these offers (if they materialize) might be confusing in the matter of published reports but would satisfy, for many, the fear that Mrs. Dean puts into words, and, if plant contributions were requested from each district concerned, and action put in the hands of a local committee, full acceptance might be practical. A clause in the constitution as it is at present drafted deals with this point of local control; roughly it states that the Regional Vice-President shall be elected by the local members, shall (subject to the approval of the Society) have full control of all Trial grounds, exhibitions, and local meetings within his district and shall be an ex-officio member of the Board of Directors. The question of voting by mail upon important questions is also receiving serious consideration. In other words the promoters are doing their best to make the society of value to any member wherever his place of residence. The dues as at present proposed will be $3.00 per year.

Mr. Cooper has most generously offered the use of THE FLOWER GROWER as an official organ, and however few Iris you may grow, I hope that you will think it of advantage to join the Iris society.

It is an anti-climax, but please remember that though I have written in good faith I am merely a prospective member of a proposed society, actual results lie in the future.

ROBERT S. STURTEVANT.

Any subscriber who can furnish us with a copy of the May, 1914, issue in good condition, of THE MODERN GLADIOLUS GROWER will have his subscription advanced three months in payment for same.

Any subscriber furnishing us a copy of December, 1917, THE MODERN GLADIOLUS GROWER, in good condition, will have his subscription advanced two months in payment for same.

The reserve copies of THE MODERN GLADIOLUS GROWER are being greatly reduced and those who are interested in securing a complete file should not delay. The 1918 issues of THE FLOWER GROWER are also in short supply. Bound volumes will be at a premium soon.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

February Hints.

THE real gardener is generally happiest when he is the busiest and after the usual wid-winter rest, enforced by the biting cold (in central Ohio) he is fairly itching for some out-of-door work, and by the time that Mr. Groundhog has seen or failed to see his shadow, he sallies forth to work off his surplus energy and enthusiasm, but it is not necessary to give even a thought to cherry trees when there are many other things that really need attention.

It is a fairly good rule to leave the pruning of the grape vine until Washington's Birthday. There is no danger of the vine "bleeding" and our gardener has something pleasant to look forward to that day. That vine on the trellis by the kitchen door probably needs it badly. It shaded us so long and yielded its fruit so freely that each trendril has become endeared and we are loth to part with them, but we must not forget its needs, if we wish it even heavier foliage, and greater yield of fruit, and should prune it closely.

Trimming the Hardy Hydrangea.

There is the Hydrangea tree (Paniculata) still holding its panicles of bloom, not withered, but dried to the brownish gray of midwinter. This unlike some shrubs, blooms on new wood and must be cut back closely. You may have trimmed this shrub yearly and been rewarded so handsomely that you feel like cutting back every shrub you come to, but you would soon learn your mistake. All early blooming shrubs bloom on last year's wood and after you have trimmed that Hydrangea to suit your fancy, if the next shrub nearest you happen to be a Wiegelia or other *early* blooming variety and you prune it in a similar manner, you will discover next spring that you have cut away the flowering wood, and your shrub will furnish you a good growth of foliage but no blooms.

It is well to keep in mind that all early flowering shrubs bloom on last year's wood and should not be pruned until after blooming. Then with the pruning should come good cultivation to induce strong growth of new wood for the following spring blooming.

Unless these shrubs are large many of them need very little trimming, especially if they are of the fountain shaped or drooping varieties, but may be thinned by cutting out the old wood, perhaps that part that has become taller than we wish. In the thinning process the growth should be cut close to the ground.

MRS. A. H. AUSTIN.

Guide for Horticultural Exhibitions and Garden Competitions.

We are just in receipt of U. S. Department of Agriculture Circular No. 62, by F. L. Mulford. This bulletin we should call, as the above heading indicates, a useful guide to those who wish to stage exhibits of fruit or flowers. The bulletin which contains 38 pages with many illustrations, covers not only the subject of proper arrangement of the exhibits, &c., but gives a general discussion of the subject including organization, competitions, classification and schedules.

Flowers especially mentioned are the Narcissus, the Iris, the Peony, the Rose, the Sweet Pea, the Gladiolus, the Dahlia, and the Chrysanthemum. These cover the better known outdoor summer-flowering plants and the information given in the bulletin could easily be applied to the staging of a competition of most any variety of flowers.

Illustrations and descriptions are given of suitable tables, benches and shelves for staging competitive exhibits, also suitable labels for marking exhibits and a scale of points is given for the judging. Altogether we are disposed to commend this bulletin exceedingly for the useful information it contains and we recommend that those who have charge of the promoting of flower shows should send for a copy and keep it on hand for reference.

The popularity of the Poinsettia as a Christmas flower is increasing and we will be glad to have a brief article with some suggestions for the care of same so as to carry them over from one year to the other. Also some suggestions about the propagation will be interesting.

Cut flowers, as most everyone knows, are kept longest by cutting off small portions of the end of the stem each day and fresh water supplied; but there are exceptions in the case of plants with milky juices like Poinsettias and Poppies.

St. Thomas Horticultural Society.

AN UNUSUAL CO-OPERATIVE FLOWER GROWING PLAN.

In a recent personal letter from Dr. Frank E. Bennett, President of the Horticultural Society of St. Thomas, Ont., he incidentally gave some information about the unique and splendid work of his society, and this appeared to me so interesting that I asked and got his permission to make an extract of that part of his letter which relates to the work of the above named society, and send it along to THE FLOWER GROWER. I am sure it will interest many others as it interested me. Dr. Bennett says:

"Our work is very different from a dealer's. A dealer claims he has no time to educate the public, but right here is where we step in and insist upon the educational feature. We buy all the good things of each of the good hybridizers and get some enthusiast to grow certain varieties, and as they bloom they are exhibited in a local jeweler's window, not a big exhibit at any certain time but a small one every day. Each bloom is put up individually in a cut glass vase and correctly labeled, also giving the name of the originator and of the person who grew it.

"This exhibit idea is original on my part and is now being copied by many Ontario societies. We used probably 45,000 Gladioli last year. You would be surprised at the letters which we receive from prominent men all over the country, who are interested in our work, and ask us to secure bulbs for them.

"Think of a town of 18,000 people with a Horticultural Society of over 2,000 members and receipts over $10,000 for 1919! There are flowers everywhere. One man sent me last Monday a check for $100 just for the good of the cause. He lives in a city 18 miles from here and has no property in our city. That's the way the people appreciate our work.

"We have church organizations growing flowers for pulpit decorations on Sunday, to give to the sick in their congregation and for any other purpose, and we, as an organization, grow probably 5,000 Glads and we keep our local hospital flooded with flowers. If a man of note comes to town, he is sent a bouquet and a letter of welcome from our society. If an out-of-town society holds a show, we send them a contribution. We preach the gospel of flowers 365 days in the year, incidentally advertising the 'Flower City.'"

* * * *

You cannot read this without wishing that you had a horticultural society of this order in your town, or rather, that you had a man or men, who could create such a society.

The hat off, deep, for St. Thomas Horticultural Society and its wide awake and energetic president, and a generous number of cheers for "The Flower City of Canada."

KRISTIAN PRESTGARD.

Those who are able to secure good germination from bulblets find that the purchase of bulblets is the cheapest way to get a good start with Gladiolus varieties that they are interested in. Some growers are offering bulblets at very low prices at the present time.

The Flower Grower

PUBLISHED MONTHLY ON THE FIRST OF THE MONTH BY
MADISON COOPER, CALCIUM, N.Y.

FOR BOTH AMATEUR AND PROFESSIONAL FLOWER GROWERS

Subscription Price:
$1.00 per year,
3 years for $2.00.

OUR MOTTO:
Special favors to none, and a square deal to all.

Canadian and Foreign
Subscription Price
$1.25 per year.

Growers are invited to contribute articles or notes over their own signatures, but the Editor reserves the right to reject anything which in his judgment is not conducive to the general welfare of the business.

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Vol. VII February, 1920 No. 2

> *"He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers."*—ZOROASTER.

Grow Named Varieties of Flowers.

What a stupid old world this would be if we knew all of our friends by their family names only, such as Jones, Brown, Smith, etc. There would be no possible way of distinguishing between the different families of the same name, nor between the different members of the same family, unless we used some descriptive words in referring to them, and even then it would give rise to endless confusion for we probably would not agree on the application of the description.

It is just as stupid to grow flowers and know them by their family names only, such as Peonies, Irises, Gladioli, etc. An attempt to describe a particular variety, without referring to it by name, would be as confusing as the various shades and combinations of colors the particular flower possessed.

Get chummy with your flowers, familiarize yourself with the different varieties of each family and learn to know and call them by name. There is a flower for every mood, fancy and taste and by studying and knowing the varieties you will soon learn which ones are particularly adapted to your likes. It takes no more energy, time nor money to grow these varieties than others, the particular color or form of which, may be distasteful to you. You are the sole judge of your flower garden, so why not have it 100% perfect.

You will get about as much enthusiasm out of a Peony lover in discussing simply a white, a pink or a red Peony as you will out of the Kaiser in discussing the battle of Chateau-Thierry. But, mention *Marie Lemoine*, *Sarah Bernhardt* or *Felix Crousse* to a Peony crank and he will rise to it like a healthy brook trout to a fly. That is different; now you have something to talk about.

You can no more expect an ordinary pink Peony to put forth blossoms like the incomparable *Therese*, than you can expect to make a racer out of a draft horse. It simply cannot be done. This is so self-evident that it seems fatuous to make the statement, yet this is exactly what a large class of amateur Peony growers are trying to do today. They pay no attention to varieties; wait until the last minute to order their roots, then, hurriedly running through a catalogue, order a few pinks, a few whites and a few reds When their plants blossom they are grievously disappointed because their pinks are not like *Therese*, their whites not like *Baroness Schroeder* and their reds not like *Felix Crousse*, and like as not, blame the nurseryman and accuse him of sending inferior roots.

Then there is another class we probably will always have with us, who are as irritating as an active cootie. They gather together all the catalogues within reach, laboriously pour over the pages, and carefully make out their order of named varieties. Then, as soon as the roots arrive, proceed to remove all the labels. The result, of course, is a garden of nondescript flowers, nameless and soulless. They seem to forget that the nurseryman has spent a great deal of time, energy and money to keep his stock true to name, and that he has carefully selected and labelled the roots according to their order. For this service they have paid him money, three or four times as much as for unnamed varieties, and yet they deliberately proceed to undo all the work he has done for them, and thus cheat themselves in the bargain.

A great many flower growers of the present time are still living in the age of unnamed varieties and are trying to reproduce their grandmother's garden of their childhood days. Even if they succeed they will be greatly disappointed for nine-tenths of the charms of that garden is in their own imagination, and the romance with which they have surrounded it. Flower culture like most everything else, has advanced rapidly with the times, and we are now living in the age of named varieties. Their grandmother's garden, like the old stage coach, is a thing of the past.

Four or five years ago a friend of mine discovered a very beautiful red Peony in his garden which he was unable to identify, the name apparently having been lost. His garden consisted of some seven hundred roots, and about one hundred and fifty choice named varieties. Owing to the beauty of the flower, and not having another like it, he repeatedly tried to learn its identity but without success. Last fall he finally rogued it. Granting that a Peony, with or without a name, will be just as beautiful and smell just as sweetly, the fact, nevertheless, remains that there is no place in a well selected Peony garden of choice named varieties for a rogue.

A person with a nondescript flower garden is like unto an old bachelor, who, being very fond of children, decided to adopt all the inmates of a foundling asylum. A most kindly act, but, bless his kindly old soul, what a lot he has missed by not having children of his very own about him, and to have experienced that indescribable pleasure of watching each child unfold and develop in the image of its parents, true to form; a named variety.

In gathering your family of flowers about you do not go out into the high-ways and by-ways, like the kindly old bachelor, and pick up a lot of unnamed, nondescript plants, the varieties and parentage of which you know nothing about, for, in spite of all the care you may bestow upon them, the net results will be simply flowers. Of course, if that is all you are seeking, you will undoubtedly be amply repaid for your efforts. But what a lot you will have missed by not growing named varieties and experiencing that delectable thrill of watching an unfolding bud burst into a beautiful flower in all its glory, true to name, true to form and true to your anticipations. With unnamed varieties the most you can do is to expect the worst and ardently hope for the best. Furthermore, by growing named varieties, and familiarizing yourself with each variety your interest and enthusiasm for your flowers will increase many fold.

Flowers are not unlike children. Some are petulant, bold and fractious and cut up the most unexpected capers at the most inopportune times, while others are gentle, modest and obedient and always run true to form. If you really want to experience the unadulterated joy of growing flowers, treat them like children, plant only named varieties and carefully preserve the names and know where each variety is in your garden. Get chummy with them and know each plant by name. Nurse them and coddle them while they are young, tenderly and patiently watch over them from the time each little sprout appears in the spring until the delicate bud bursts into a beautiful flower, and finally in the fall, carefully tuck in each little plant for its long winter sleep.

Oliver S. Andresen.

Packing for Shipment.

After some years' experience as a purchaser of Gladiolus corms and other flower stocks, the editor is impelled to say a few words about the proper packing of same, especially for shipment during cold weather.

Gladiolus corms freeze easily and after being once frozen are useless and, therefore, they should be carefully protected against frost at all times. Many shippers apparently neglect the most elementary principles of safe packing, not only as a protection against frost, but proper packing for safe handling. One caution that should be observed is that the Christmas rush should be avoided. Express shipments, especially, made within two weeks prior to Christmas are likely to be greatly delayed, and as Express matter accumulates in large quantities on railroad platforms at transfer points and is exposed to the weather without protection much loss results. Parcel Post, while not absolutely safe against frost, especially where deliveries are made on rural routes, yet generally speaking mail is handled with much greater celerity than express, especially at Christmas time. Unless packages are comparatively heavy and are going long distances, Parcel Post is much safer against frost damage than Express.

There is nothing better for shipment of comparatively small or medium sized packages than a good corrugated paper box. This may be double lined with newspaper and double wrapped outside, once with several thicknesses of newspaper and then with heavy express wrapping paper. Gladiolus corms packed in this way should be in double paper bags and packed into the box tightly so that they make a very solid package. Avoid by all means simply placing the bags in the box without reference as to whether they fit tightly or not. In case the bags do not fill the box any small space remaining may be filled with crumpled newspaper tightly rammed in place. The object is to have the contents of the box so it will not move around in the box after it is packed. If the contents of the box moves, even slightly, it is likely to break the bags and thus the varieties become mixed. The contents of the box must be tightly packed so that when the cover is put down considerable pressure is necessary to force it in place.

Great care should be exercised in tying the package. Use strong cord which will not stretch and see that it is pulled tight. A package tightly packed and tightly tied is much safer, not only against frost but also against breakage. Express rulings now require that packages weighing more than 25 pounds must be packed in wood containers or corrugated paper containers which have the stamp of approval. This ruling has been made necessary by the careless packing which has been prevalent. No such requirement is made for mail shipments, but careful packing should be done as a matter of ordinary precaution.

Some shippers pack several weeks in advance of shipping on account of shortage of labor and hold shipments for spring shipment to be safe from frost. This is bad practice. Flower stocks remaining packed in this way accumulate moisture and have a tendency to sprout or make roots, causing loss of vitality or even death of the plant.

Madison Cooper.

A Word to the Wise Advertiser.

The tremendous demand for flower stocks of all kinds during the present season has produced an effect in the minds of advertisers that is not altogether based on good reasoning and good judgment. The situation has induced some growers to curtail their advertising or not advertise at all. While we believe and hope that present prosperous conditions are likely to be with us for some time, we would point out to those advertisers who have been disposed to cut their advertising during the present season that their deductions from an advertising standpoint are erroneous. With a return to normal times, or with the advent of comparatively "hard times," those growers who advertise continuously now and keep their names before the flower loving public are the ones who are continually accumulating a list of new customers and they are the ones who will be in line to do the business when business is not as easy to get as it has been during the present season.

"A word to the wise is enough."

Madison Cooper.

Since our long-time friend, Wilbur A. Christy, and our young friend, Melvina Hammond and her mother, Mrs. Bertha Berbert Hammond, have written about the fringed or blue Gentian, we have become much interested. While we have been unable to locate the fringed Gentian we have right here within a stone's throw of our office windows the closed or bottled Gentian growing in great vigor. Before we knew the name of this flower we were greatly attracted by it and the thought occurred to us that under cultivation it could be made a very beautiful thing. We learn, however, that the Gentian is not easily domesticated or transplanted, but as long as it does so well in our bit of wild garden adjoining the office, we have no great desire to reduce it to a state of captivity.

Special attention is called to the article by Mr. Prestgard, headed "St. Thomas Horticultural Society." The work this organization is doing under the leadership of Dr. Frank E. Bennett may be copied to great advantage in hundreds of places. Dr. Bennett, it will be remembered, brought a fine exhibit of Gladioli to the annual flower show of the American Gladiolus Society held in Detroit last August. While Gladioli are a specialty with the St. Thomas people, yet they do not confine themselves to this flower, but aim to have flowers in bloom every day in the year.

Flower growing is one of the most educational and elevating hobbies that can be undertaken. There is hardly another pursuit which may be even compared with it for the general development of the individual.

WAYSIDE RAMBLINGS

OCTOBER BLOOMING GLADIOLI.

The two latest varieties to open with me this year were *London* (Cowee), on October 9th, and *Indian Summer* (Kunderd), on October 11th.

I was very much afraid that these two would not flower this year, they were so late in throwing up their bloom spikes. The former did not strike me as being the same flower I grew under the same name a few years ago. Although a pretty flower and a good spike, so far as shape goes, it does not agree with the grower's description. The foliage was tall and narrow. *Indian Summer* has very broad foliage. The spike is very fine and strong, and notwithstanding the early frosts, which cut down the Marrows and Dahlias, the flowers still continue to open. Today (19th) the twelfth flower from the top is fully developed. I shall endeavor to give it a warmer position next year, so that the bloom may have a chance to show its beauty earlier. In my opinion the illustration of this variety in Mr. Kunderd's catalogue does not do it justice.

We have had quite an unusual spell of cold up to and including the 17th of October, nevertheless, I cut a nice bunch of spikes on the 18th. Most of these were cut from bulblets, treated in the same way as Sweet Pea seeds, sown singly in "T. P. Seed Raisers" and transplanted when about six inches high. I was anxious to see how true the following statement I read in a grower's catalogue could be:

"The smallest bulblet will in five months produce a fine spike."

The results were far beyond my expectations (the grower's remark only applied to a particular variety). I have cut good spikes of *Adoration*, *Purple Glory*, *Ulrica*, *Zenobia*, and five or six others.

SMILAX.

DOWNS AND UPS.

No, I don't mean "ups and downs." When the prices of Gladiolus novelties go down it seems the natural thing but when Mr. Diener (or the "Co.") reduced the price of *Anna Eberius* from $5.00 per bulb in 1917 to 25c. in 1918 and to 15c. in 1919, I thought they were making a mistake and not realizing the "cumulative effect" of advertising. I did not show it until the Cedar Valley Fair, late in September, 1918, but everybody wanted it. In 1919, at the State Fair, orders for it came by the gross and I wondered how he had stock enough to supply the demand if it "took" as well elsewhere. Sure enough, he now announces that the price for *Anna* will be 25c. and that of *Thos. T. Kent* will be raised from 10c. (altogether too low at the time) to 50c.

I believe in popular prices but I did not hesitate to tell people at the Fair that if it were mine I would not have reduced the price so much so soon. It appears that I was nearer the people than he and ascertained the popularity of these novelties sooner. This talk about one or two of Diener's novelties might seem like free advertising but, like *America* and the Ford car, they have got to the point where mentioning ceases to be advertising. The Ford has become a common-place in fiction—and war history.

GEO. S. WOODRUFF.

DETERMINING FAIR PRICES FOR GLADIOLI.

The article in your October issue under the above heading must have been read with great interest by both sellers and buyers, for even "bargain hunters" must agree that: "Clean, home-grown bulbs of all commercial varieties, properly graded and true to name, should have a fixed value." Consulting English Daffodil lists, this rule appears to be fairly carried out. In an English Gladiolus catalogue just received my eye caught the two following names:

Maculatus—Orange yellow, dark-spot (new) each 5s. 0d.

Topaz—Orange yellow, shaded salmon (new) each 7s. 6.

The names seemed familar, but the prices seemed rather high, which caused me to look up a French catalogue of 1918–19 in which I found:

Maculatus—Bright chrome yellow with large brown blotches, each 4d.

And an American catalogue in which I found:

Topaz—Finest salmon pink and buff, each 30c.

There is a wide difference in price, if the same varieties are intended. The descriptions are not so different as to lead one to expect distinct flowers. Should, however, the varieties be entirely distinct, it would show the need of some system of name registration.

There are also other varieties in the English catalogue, the prices of which would surprise some of your readers. The price in each case is per bulb:

Halley, 1s. 6d.; *Niagara*, 3s.; *Panama*, 3s.; *Peace*, 2s.

"CONSTANT READER."

GROWING CORMLETS.

Soak them in tepid water some hours before planting. Sow them thickly and evenly in a well cultivated flat-bottomed trench, ten inches wide and three deep. Cover with two inches of soil, then add another inch of well rotted fine manure. There's merit in this added layer. It facilitates the early weeding before the tender plants push their way through the lower covering. It shades the ground, prevents baking after hard showers and insures plump because well nourished stock for next year's planting. The shy germinating sorts respond well to this treatment.

HENRY MADTES.

ACHIMENES.

Why is it that we do not see Achimenes used more generally for hanging baskets and porch boxes? They are so well adapted for either purpose, and are absolutely the Queen of all plants for baskets. The blooming period extends from July to October, if seeds are kept from forming.

They unfortunately are one of the varieties of bulbs that come under the Federal Horticultural Board's Quarantine Order No. 37. They can be grown so successfully in all parts of the States, I wonder why they should be imported at all. There is no bulb, barring none, that gives greater returns in bloom for money invested than the Achimenes. Mine are the admiration of every passer-by, and I am constantly telling the name of the blue flower in the baskets.

Such a wealth of blue blooms that come from such a small bulb is truly wonderful. The blue varieties, of which there are several, I find are the best. About seventeen or eighteen bulbs to a medium size basket is about right; a loose soil, rich, of course, plenty of water and an Eastern or Northern exposure will give splendid results.

I wonder if they are as little used for baskets in other sections as they are here; they have always been expensive considering their size, but not expensive if you consider the amount of bloom you get from them. Very few florists list them.

I do not understand why they should not be as well known as Tuberous Begonias and Gloxinias, being much easier to grow than either of the above, and being a blooming trailer makes them doubly valuable, for both porch boxes and baskets.

MRS. T. L. TEAGUE, (Mississippi.)

A GIRL'S ACKNOWLEDGEMENT OF A BOX OF GLADIOLUS BLOOM.

Oh! What wonderful Glads you sent me. They are adorable in the box and more so when I unpack them and get acquainted; I found them Saturday noon at the post office and had all the afternoon to play with them, love them, dream over them and cry on them. How I love them. Guess I was mistaken but when I opened the box a delicate lovely perfume hovered above them. Perhaps it was just their flower freshness and their wonderful coloring that made me fancy it, but I was wishing I might ask some one with a keen sense of smell whether they could get the perfume I did. They were placed so prettily and some of them looked just like orchids, and they were all seedlings.

You are right, *Prosperity*, *Loveliness*, and *Niagara* make the finest seedling parents. I looked up the parentage of each one in the box and tried to decide which I favored but couldn't. All I can say is that I like the delicate ones best. Those cream pinks and those lavenders and cream yellows are my favorites.

How I love them! Think of the nice shiny bulbs you will dig up. More new bulbs that will bloom into seedlings next year. Always something new to look forward to.

CHARCOAL AS FERTILIZER.

I have noticed articles in THE FLOWER GROWER on the use of charcoal as a fertilizer.

My experience with charcoal is that as a fertilizer, it is of no value. I have tried it in powdered form on Gladioli, and also garden truck, on light and heavy soils, have used it alone and also mixed with other fertilizer several seasons with no results.

One curious thing about charcoal, it does not appear to decay; have dug it up the following year as fresh as when it was put into the ground. I find it makes good drainage material to use when potting plants. Some florists use it in powdered form mixed with potting material, and claim it sweetens the soil. The charcoal we get here comes from Northern Ontario and Quebec and is sold in bags of about two pecks for 25 cents, it is used chiefly for making a quick fire for cooking, etc. Charcoal must not be confused with wood ashes, as it (wood ashes) contains a good percentage of potash and makes a splendid fertilizer.

ALBERT G. PERRY.

Note by the Editor—

We have used charcoal the past season in connection with the growing of Gladioli and although no experiments were made scientifically and no checked areas used, we were well enough pleased with the results to continue the use of charcoal another year. It is decidedly our impression that charcoal is a purifier and that it has a strong tendency to prevent disease in growing crops. Charcoal, is largely pure carbon, which surely must be beneficial to crops, and it also contains all the elements of wood ashes and although it must necessarily decay slowly, yet the effect would be so much more lasting.

LARGE AND SMALL CORMS.

I read somewhere a while ago an advertisement, offering special large Gladiolus bulbs, calling them "Excelsio Bulbs" or something of that sort, and recommending them as specially desirable for "increasing rapidly" expensive new sorts.

Now those of us who are really growers, with several years' experience in propagating the Gladiolus, know that the extra large corms are not nearly so good for rapid increase as medium sized bulbs, provided always that the latter are young, grown from the bulblet.

It is true that these large bulbs will multiply directly, as I call it; that is they will send up two or three stems and make as many new corms. But that is a slow way at best and it would take "an age" to get up much of a stock in that way. On the other hand, young bulbs will produce often only one new one but will have from ten to a hundred bulblets (cormels) which will make blooming bulbs and cormels besides, the second year and cormels both first and second years. Is there no good use, then, for large bulbs? Surely. For the florist, who wants flowers only and for only once, the large bulb gives a somewhat larger stalk and somewhat earlier and that is often an important thing for him.

GEO. S. WOODRUFF.

DANGER TO FLOWER STOCKS IN ZERO WEATHER.

With so many zero days and nights I wonder how many growers will lose their crop of bulbs unless they are fortunate enough to own frost-proof storage room. I note in past issues of THE FLOWER GROWER that the Editor advises a thermometer in cellar, but the average thermometer is not very reliable and bulbs as well as many other things will freeze before the thermometer shows danger.

For many years it has been our practice to keep a small dish of wet dirt, just dry enough so that the top will be uneven, small projections sticking up to catch the first appearance of frost. Those little points will freeze long before danger to bulbs.

I have seen pails of water freeze nearly solid in the cellar and no damage done to bulbs, roots or plants. This suggestion may be a little late for this season, but pin it in your hat and have it for next winter.

C. I. HUNT.

Photographs of the vicinity where THE FLOWER GROWER is published may be of interest to readers. The above Winter ice harvesting scene is from a photograph made in 1912. The pine grove in the middle background has grown enormously since that time. The Editor's home is not more than fifteen rods from the ice pond.

If your eyes are good you can see the building in which is located the offices of THE FLOWER GROWER, a little to the left of the center of the photograph. The two windows in the corner of the building are in the private office of the Editor.

We hope to show Summer scenes at some future time.

The Glad Philosopher's Musings.

Prompted by a sense of duty I once attended the funeral of a man whose life had not been all it should have been. For the occasion wealthy relatives had sent great quantities of flowers; and huge bouquets, gorgeous set pieces and costly floral blankets were in such prodigal abundance as to be pronouncedly suggestive of vulgar ostentation.

A year or so later I attended the funeral of an aged lady, the mother of a good friend of mine who was a florist. Although he had greenhouses full of flowers of many kinds, only a single vase containing beautiful long-stemmed red roses stood upon a table close by the plain black casket. The effect was sublime in its simplicity, and although in marked contrast to prevailing conventional customs, appealed as reflecting the good sense of the loving son who provided them as a tribute of his filial affection.

Many years ago a schoolmate, a beautiful girl of sixteen summers, charmingly sweet, pure and lovely, beloved by all who knew her, contracted and soon succumbed to a fatal illness. It was well known in the community that during all of her too brief life she had loved flowers passionately, and so flowers—principally white flowers—in lavish profusion were brought and sent in by friends until the spacious room in which she lay was completely filled with them. Emblematic of her sweet, noble character, and fittingly suggestive of the purity of the soul they honored, it would not have been overdone, nor would it have appeared to convey any suggestion of ostentation had flowers paved the entire mile of roadway over which the cortege traveled that bore her body to its last earthly resting place.

THE GLAD PHILOSOPHER.

Besides Mrs. Hammond's article on Ferns which appears on our front cover page this month, we have in hand some interesting material on the same subject which should have been in this issue, but from lack of space we are compelled to hold it over until March.

THE IRIS.

History of Iris Growing.

Note by the Editor—

This article was a part of Mr. Wister's suggested program for the American Iris Society which appeared on page 8 of the January issue of THE FLOWER GROWER. It is a very complete, brief review of the progress in Iris growing to date.

No coherent review of the history of Iris growing, and of Iris growers and breeders has ever been published. Information as to the introduction of the various species can undoubtedly be found in botanical publications, but of the early beginnings of garden Irises little is known. The following review of the ascertainable history of bearded Irises, will show how very fragmentary our knowledge is, and it is hoped it will suggest what great interest a real knowledge of history might bring to the lovers of the Iris. The history of the Rose is quite complete, and through the labors of Peony enthusiasts we now know fairly clearly the transition from the wild Peony, through the skill of French breeders during the last 100 years, to the magnificent garden Peony of today. The story of the transition from the wild types of pumila, pallida, and variegata to the modern Irises of our gardens, should prove equally fascinating.

It is known that Louis Van Houtte, of Ghent, Belgium, introduced many named varieties of Irises from his nursery for a period of years beginning about 1865, and it is presumed that these were among the first improved Irises. It can be assumed that many of our older and now surpassed varieties originated here, but we do not know which varieties they are, nor do we know which varieties are referable to other early European breeders. It seems likely that some of Van Houtte's varieties, upon reaching France were renamed, and it is known that early French varieties were sent to England to be sold in mixtures at auction, and that varieties particularly pleasing to English nurserymen, were by them given English names. These careless methods are undoubtedly responsible for many of our confusions in nomenclature.

In England Peter Barr was the pioneer in the introduction of new Irises, and we have record of many of these introductions, most of which were undoubtedly his own seedlings from varieties of France or Belgium, but some of which may have been simply selections from purchases made abroad. As his work was pioneer work many of his varieties have been surpassed, but among them are many varieties which are still popular, such as *Albert Victor, Arnols, Celeste,* and *Dr. Bernice.* The dates of introduction are not known, but the more important varieties probably came after 1890, which indicates what a very modern flower the garden Iris is. In England also, between 1885 and 1902, Reuthe and Ware introduced nearly twenty named varieties, which have now become of minor importance. It must have been about this time that Caparne, on the Island of Guernsey, conceived the idea of crossing the early blooming Alpine and Crimean Irises with the late blooming Germanica, Pallida and other sections, with the result of not only giving us a large number of early forms, but also in giving us an entirely new race—the Intermediate Section. Before 1902 he introduced 37 Intermediates, among them such fine forms as *Dauphin, Diamond, Dolphin, Ivorine, King Christian,* and *Royal,* which have reached America only comparatively recently. In the Dwarf Bearded Section he named over 100 of his seedlings, but most of these were discarded by the English nurserymen who tested them before 1910, and probably but few of them have reached America.

Mention of the new Intermediate Section, brings us naturally to the work of Goos & Koeneman of Nierwaller, Germany, whose introductions reached America before those of Caparne. It is known that this firm purchased many Irises from Caparne, and it is believed by some, that Fritzhof, Halfdan, Helge, and Ingeborg, may have been Caparne seedlings, and not seedlings of G. & K. Certain it is that they have all the characteristics of the Caparne set, while the late blooming introductions of G. & K. have characteristics entirely their own. Among these latter are the splendid *King of Iris* (properly *Iris Koenig,*) *Rhein Nixe,* and *Gagus;* a number of others were equally recommended some years ago, but their coloring is so crude as to displease many people.

In France, since 1900 the progress of the Iris has been great. Verdier is known to have raised many seedlings, but at present we have record only of those varieties introduced by the Vilmorins after his death. Among these are the magnificent *Jeanne d'Arc, La Neige, Prosper Laugier,* and *Edouard Michel.* Inspired probably by Verdier the firm of Vilmorin-Andrieux, of Paris, have given us since 1905 or 1910, increasingly good Irises. Among their earlier introductions were *Tamerlan, Australis,* and *Oriflame;* about 1912, *Alcazar* and *Archeveque;* about 1916, *Dejazet, Opera,* and *Ambigu.* In recent years their tendency has been to breed more and more with derivatives of *Amas* (macrantha) which, probably with a little admixture of *Trojana,* are giving them Irises with enormous flowers, but unfortunately the plants tend to be a little shy blooming.

Near Paris also the firm of Millet & Fils, have been breeding Irises for some years, and they have sought for extreme freedom of bloom rather than extra large size. Among their varieties are *Souvenir de Mme. Gaudichau, Romeo, Col. Candelot,* and *Corrida;* they were introduced about 1914 and are as yet little known in this country.

Cayeux & Le Clerc, of Petit Vitry, near Paris, have been introducing Iris seedlings since 1906. Their three best varieties are probably *Ma Mie, Mme. Blanche Pion,* and *Petit Vitry.*

On the Mediterranean coast west of Montpelier, lives the greatest French Iris amateur, M. Ferdinand Denis. He has been conducting breeding experiments for many years, and was the first to use the species Ricardi, which has given his seedlings great size and height in his climate, but some of them unfortunately are not so well adapted to northern climates. Among his varieties introduced during the past five years are *Mlle. Schwartz, Mme. Claude Monet, Mme. Durande* and *Mme. Boullet. Troost* and *Dalila* are older, and are now listed in American catalogues.

In England since 1900 even greater progress has been made. There the late Sir Michael Foster, of Cambridge, is considered the father of the modern Iris. By crossing Oncocyclus species with bearded Irises he gave us the famous *Dilkash, Parvar, Shirin* and others which flourish in England, but which have not proved complete successes in America. Among Apogons he gave us many varieties of Spuria and Monspur. But to Americans his greatest achievement appears to be the fact that he was the pioneer in the use of the species Trojana. From this species *Caterina, Crusader, Lady Foster,* and *Shelford Chieftan* inherit their height, size, and their graceful stems. These were introduced before 1913. Older varieties are *Mrs. C. Darwin, Mrs. H. Darwin,* and *Mrs. Allan Gray.* The last named variety contains blood of the species Cengialti, which apparently had not been used before this. All the Foster varieties were introduced by R. W. Wallace & Co. of Colchester, who are today the leading Iris specialists of the world.

Since 1900 also, Amos Perry, best known as a specialist in Rock Plants, has given us some fine Dwarf Bearded varieties, and also some late blooming varieties among which are *Her Majesty,* the famous *Black Prince* (often wrongly called *Black Knight*), and more lately some Cengialti seedlings, and also some fine Siberica varieties. Wallace has introduced also a number of seedlings of Mr. Yeld, of York, among which are *Dawn, Neptune,* and *Lord of June.* All the Yeld varieties are exceptionally vigorous and strong growing. Wallace has introduced this year the first of the seedlings of Sir Arthur Hort, another amateur who has obtained extreme size in some of his *Trojana* crosses. Mr. W. R. Dykes, his great book completed, has turned his attention to breeding as a means of discovering the parentage of some of our older varieties rather than the creation of improved new forms. Two of his seedlings, however, have already become popular in England, namely, *Goldcrest* (not the variegated variety of that name) and *Richard II.* It was Mr. Dykes who, 20 years ago, induced A. J. Bliss to take up Iris breeding in a scientific way, for scientific purposes and thus unwittingly gave to the Iris world its greatest breeder. For the three score and ten varieties that Mr. Bliss has saved from the more than ten thousand seedlings he has raised, represent a greater advance in the Iris as a garden flower than all the other Iris breeders up to the present time have given us.

I have pointed out in the foregoing pages some of the characteristics which have marked the work of the other breeders. No such single characteristic of the Bliss seedlings can be given, but rather it must be said that his varieties have no single strong point, but that they combine vigor, height, size, freedom of bloom and clear color. Since 1917 Wallace has introduced 31 of the Bliss seedlings among which may be mentioned *Azure, Benbow, Camelot, Cretonne, Dominion, Knysna, Phyllis Bliss, Sweet Lavender* and *Tom Tit.* Mr. Bliss has kept records of the parentage of all his seedlings.

In America few Irises were grown before Mr. B. H. Farr, of Wyomissing imported his famous collections from Barr, later adding the G. & K., and Vilmorin novelties. This collection began to attract attention before 1909 when he sent out his first seedlings, and his introductions during the next few years, which included such varieties as *Anna Farr, Glory of Reading, Mount Penn, Mary Garden, Quaker Lady* and *Wyomissing*, made him justly famous throughout this country, and also abroad. His work was pioneer work, however, and many of his seedlings have already been surpassed.

Miss Grace Sturtevant, of Wellesley Farms, Massachusetts, was the next American breeder to attract attention, her first seedlings being introduced about 1916. Among them are *Afterglow, Shekinah, Dream, Empire, Avalon,* and *Queen Caterina.* About this same time Mr. W. E. Fryer, of Mantorville, Minn., introduced a number of seedlings of variegata and squalens type, which had proven very satisfactory in his severe climate. Among them are *Fryer's Glory, W. J. Fryer, Minnesota,* and *Golden Plume.* About this time also Bobbink & Atkins introduced a set of six Irises, apparently descendent of some of Goos & Koeneman's varieties. The well known Secretary of the American Peony Society, Prof. A. P. Saunders of Clinton Vt., has introduced one seedling, the beautiful *White Knight.*

Mr. E. B. Williamson, of Bluffton, Ind., an amateur, has raised many seedlings of Susiana or Korolkowi crossed with Pogon varieties, and has introduced at least one tall bearded variety, *Lent A. Williamson.* Another amateur, Mr. J. M. Shull, near Washington, D. C., is making many crosses of Trojana and variegata. Mr. D. M. Andrews, of Boulder, Colorado, has been making crosses for some years, with a Mendelian program in mind. While he has secured several good seedlings, he does not intend to introduce any of them until his experiment is complete. It is known that Mrs. Jenkins and Miss Van Name of New Haven, Conn., Mrs. McKinney, of Madison, N. J., and Mr. Mohr, near San Francisco, and other amateurs, have been growing seedlings for some years, but they have apparently not yet reached the stage of naming or introducing any of them. This is probably true also of various nurserymen throughout the country.

This review of the history of Iris growing shows how very much we do not know, and how many gaps there are to be filled in. Such work should be done by the Iris Society. Mention of Japanese varieties has been purposely omitted, as the situation is too hopeless to be attempted until the society is older.

THE ROSE.

Animal Food for Roses.

By M. Downing Brainard.

[*Written expressly for The Flower Grower.*]

"Talk about your fertilizers for Roses! If I could get sufficient blood from the slaughter-pen I would not have any other," was the assertion made to us some years ago by a Rose specialist.

"Sometimes, I am able to get the fresh blood from the pen, and when I do, I mix the blood with water in the proportion of one-third blood to two-thirds water. With this mixture I water the bushes very carefully close around the roots."

"This mixture gives a beauty and intensity of color to the Rose that nothing else will."

Taking in the scientific analysis of blood, I realized the great virtue of the experiment, for, the specialist was using a formula, rich in nitrogen, phosphate and potash, a combination beyond a doubt, the best that could be made.

It is useless to say that I tried the experiment with a most wonderful success. However, I must say, with the blood application, I had the advantage of a natural deposit of iron in my garden soil.

Bone-dust comes nearest to the blood effect, or, for that matter any animal matter is good, but nothing takes the place of blood.

This calls to my mind a story about "Beef-tea and Roses":

A gardener grown gray in the service of the old Roman Palace in the "Via Sistini" was a worshipper of Roses.

Rome was called the City of Roses; for the Romans in general loved Roses. This old man's love for the queenly flowers amounted to almost paganism. He never tired of coaxing, petting, feeding and growing his beautiful Roses until their perfection was known everywhere. Their odor was passionately intense, their forms perfect, their petals exquisite in the fineness of texture. The color of some was crimson, some blood-red, some cameo-pink, changing to cream; no color, mottled or muddy. They were marvels of beauty.

There was a secret attached to their food and development, but the worshipper guarded it well. Detectives were set to watch as universal interest increased in the marvelous beauties. The old man was wary and hard to catch. One day, however, the secret watchman caught him watering the bushes very carefully at the roots—a little to each bush—with a clear dark fluid.

Further investigation proved the mysterious libation to be a strong *beef-tea* made from fresh beefsteak and strained.

While discussing the beauty of my own Roses in my own Western home, one day, I repeated this story to a friend who had traveled much through Europe and lingered long in some of the old palaces of Rome. He had this to say:

"The Roses of Rome are certainly very beautiful, but, in my travels through Europe I was as forcibly struck with the luxuriant growth of even the most delicate ferns in Germany in spots where the brewers had thrown their refuse malt."

Awards by the General Bulb Growers of Haarlem.

The different Floral Committees made the following awards during August, 1919:

FIRST-CLASS CERTIFICATES.

GLADIOLI.—

Primulinus Salmonea—bright salmon-shaded orange.

**Marechal Foch*—soft lilac rose.

l'Immaculee—pure white.

AWARDS OF MERIT.

Primuliangexanthia—Bright orange, the lower petal striped orange red.

Victor—Large flower, salmon red.

Odin—Rose salmon, spotted carmine.

Edith Cavell—White, feathered lilac.

Elta—Soft rose.

Sydonia—Purple in the centre, feathered lilac.

White City—Pure white.

Crinum Krelagei—Bright rose, flower large.

Decorative Dahlia *Jacques Urlus*—Salmon rose.

Peony-flowered Dahlia *Morgenster*—Bright scarlet, shaded orange.

CERTIFICATE OF THE HAARLEM TRIAL GARDENS.

GLADIOLI.—

Gen. De Wet—Clear orange.

Hecla—Bright red.

Pandora—Orange salmon.

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* This variety is figured on page 200 of the *Gardeners' Chronicle* (London) of the 18th Oct., 1919, and in a note on the same page it is said to flower three weeks earlier than the varieties *America* and *Panama.*

One of our subscribers in San Diego, Calif., W. H. C. Lawrence, writes that by making a succession of plantings he was able to have continuous Gladiolus bloom for practically three years, and there seems no reason why this could not be duplicated indefinitely by careful attention to quality of stock planted, and planting at proper intervals throughout the year.

THE PEONY

An Amateur's Winter Cogitations on the Peony.

JOHN E. STRYKER (Pres't Northwestern Peony & Iris Society) in *Minnesota Horticulturist.*

Most professionals who devote themselves to the ornamental side of gardening are specialists. They either produce cut flowers or landscape material or collections of specimen plants. A few amateurs follow one of these specialties, but most of us attempt to secure more or less satisfactory results in all. Consciously or unconsciously there comes a time, however, when the amateur ceases to try to do everything. The space at his disposal is usually restricted, and his experience and skill are always limited. It follows that after more or less experimentation he is likely to devote himself primarily to one of the objects above suggested or perhaps to limit himself to the cultivation of one favorite flower. If that flower lends itself to all the uses above outlined so much the better.

All of us make obeisance to the Rose as the queen of the garden, but the service of the queen is a hard service and the glory of the garden is not dependent upon the favors of the delicate and much petted regal lady. Her democratic and progressively dangerous rival is the Peony. This does not mean that the modern Peony is cheap or common. Few flowers are valued more highly by their friends. But the Peony is hardy as an oak and is unexcelled as a subject for a collection of choice specimens, or for landscape material, or as a cut flower. It produces all the tints of the Rose with greater variety of form, size and fragrance, while, unlike the Rose, with reasonable care, it is *certain* to produce in profusion a harvest of exceeding beauty.

The Peony is a gross feeder, and the best soil is rich garden loam, but the manure must be thoroughly disintegrated and amalgamated with the loam. In case long preliminary preparation is impossible, the best practice appears to be to dig a trench of, say, two feet in depth and fill the lower half with well composted manure and garden loam, mixing the two together in about equal proportion. This should be allowed to thoroughly settle, and then the trench may be filled with any fairly light, rich soil without manure, and the tubers may be planted with their crowns not more than two inches below the surface.

Many catalogues would lead the amateur to suppose that the Peony may be planted as well in the spring as in the fall. The concensus of opinion, however, leaves no doubt that the only proper time to plant is after the Peony has thoroughly matured its foliage in the fall. In this climate this is between the middle of September and the hard freezing of the ground. If the Peony is divided before the plant has thoroughly matured in the fall, there is an apparent deterioration of the tubers, and if the planting is done in the spring it takes so long to re-establish the growth that time is wasted as compared with waiting until the following fall, if not a year longer.

Another error which frequently results in a failure of bloom is too deep planting. The crown of the plant should not be more than two inches deep after the soil is settled. The usual directions call for two or three inches, but in attempting to carry out this practice the gardener, having carefully loosened the soil for a considerable depth, finds that the earth settles with the tuber, and in consequence the plant, when it is finally established, is placed with the crown four or five inches below the level of the neighboring surface. The result will inevitably be a weak top growth and frequently so-called sulking, which results in the production of no flowers or very inferior flowers.

Catalogues, and some alleged Peony experts, advise the fall mulching with manure, but this is, in the opinion of the writer, the unpardonable sin of Peony growing. Repeated experiments have shown that sooner or later it is sure to result in the rotting of the tubers, followed by fewer and smaller flowers and the necessity for lifting, dividing and cleaning the roots.

If a properly planted Peony requires enrichment, the time to apply the fertilizer is at the beginning of the growing season, when it may be at once utilized in feeding the plant—and perhaps the best way to accomplish this is by the use of liquid manure.

The three imperative "don'ts" for the Peony grower are, therefore: don't plant in the spring or before the full maturity of growth in the fall; don't place the crown of the plant more than two inches deep; and don't, either when planting or later, permit manure to come in contact with the stem or root of the Peony. If these rules are observed and ordinary tilth is maintained, even the beginner in Peony culture is sure to reap an abundant reward for every well chosen Peony which he plants.

Anyone who is asked to talk about the Peony is expected to state which are the most desirable varieties. When we consider that there are several thousand of these varieties, obviously the answer must be more or less empirical or merely express individual tastes. There is no best variety and no best twenty varieties for everybody. After growing a hundred carefully selected kinds, and studying several hundred other varieties, both in growth and at flower shows, the writer is free to confess that he finds a new variety each season which to him seems the best. The superlative merits of individual plants are seen only in propitious seasons and under favorable cultural conditions. Then where there are so many charming rivals for one's affection, constancy ceases to be a virtue. The present reigning favorite in the white section is *LeCygne*, and *Therese* has long been close to the throne among the light pinks. *Baroness Schroeder, Elizabeth Barrett Browning,* one of the numerous *Lady Alexandra Duffs* and even the quite common *Marie Lemoine* are almost perfect whites. *La France, Eugene Verdier, Rene Hortense* and *Martha Bulloch*, when at their best may be dangerous rivals of *Therese.* In the rose or deep pink class it is difficult to name anything as fine as *Le Cygne* or *Therese*, but *Madame Geissler* is immense and imposing; *Madame Ducel* is exquisite in form and color; *Modest Guerin, Albert Crousse* and *Monsieur Jules Elie* are beauties.

In the reds, *Felix Crousse, Karl Rosenfield, President Roosevelt* and *Mary Brand* are all superb, while *Monsieur Martin Cahuzac* is the darkest and one of the most interesting.

Of course the division of Peonies into white, light pink, dark pink and red groups is only a rough classification. There is an almost infinite variety of shade and tint within each of these groups. It is also true that many flowers open as pink Peonies and when full bloom become pure white. Then there are exquisite varieties like *Tourangelle* and *Asa Gray* which cannot be classed accurately as belonging to either color group. They are illusive, changing and delightful combinations of tints which are indescribable in words but are usually spoken of as blush. The unique and marvelous *Solange* is sometimes called coffee-colored and sometimes orange-salmon, but the truth is that it is indescribable. Others have guard petals of one color, a colorette of another and a crown of a third. To adequately describe a limited number of varieties would fill a book. If the color schemes are complex, fragrance, form and habit of growth are equally diversified. In shape alone, there are eight classes of Peonies: single, Japanese, semi-double, anemone, crown, bomb, semi-rose and rose types.

The so-called six points of Peony excellence are usually scaled by judges as follows:

Color	20 points
Size	20 points
Stem (including length, strength and foliage)	20 points
Form	15 points
Substance	15 points
Fragrance	10 points
	100

Tested by this scale three of the leading varieties, mentioned above, have been scored by experts as follows:

LeCygne	99	per cent perfect
Therese	98	" "
Tourangelle	97	" "

No flower is more diversified in form, color fragrance and habit, and few plants will give a longer period of bloom. They will in this climate, if we include early, mid-season and late varieties, unfold their charm from mid-May to mid-July, and when not in bloom the plants are symmetrical and attractive when other garden material is hopelessly untidy, ragged and depressing.

Truly to those who know them well, the Peony is the glory of the northern garden, and perhaps Kipling had been working in an English Peony garden when he wrote:

> "Oh, Adam was a gardener, and the God who made him sees
> That half a proper gardener's work is done upon his knees.
> So when your work is finished you can wash your hands and pray
> For the glory of the garden that it may not pass away!
> And the glory of the garden it shall never pass away!"

Northwestern Peony and Iris Society.

We in Minnesota have passed a rather strenuous winter season so far, with at least two cold months ahead of us before we can feel the winter season has passed. With the mild weather prevailing during the holiday season our mind has wandered unconsciously toward garden activities that will be entered into with such zest when conditions warrant. A generous fall of snow gives us assurance that ample protection will be afforded many a plant that otherwise would suffer from neglect.

I take great pleasure in presenting to the readers of THE FLOWER GROWER a paper prepared by Mrs. Wm. Crawford, of La Porte, Indiana, for our mid-winter meeting. Mrs. Crawford is a well known dealer in Peonies and has a splendid collection of all the best sorts obtainable and is exceedingly well qualified to speak on the subject assigned her:

"MY EXPERIENCE WITH THE PEONY."

"When a friend who lived in the country, gave me a piece of her red 'Piney' thirty years ago, she never dreamed she was the innocent cause of the Peony mania with which I am now afflicted.

We are told that Peony fever is classed among the incurable diseases, and I am sure many are present who will agree. When I cheerfully paid $100 for a root of the *Mrs. Edward Harding* last fall I asked myself: "where is this mania going to end?" Are we going to continue until we equal the Tulip craze that swept Holland in the 17th century and is now referred to as 'Tulipomania' and described as 'a form of gambling in which admiration of the flower and interest in its culture were very secondary matters.'"

So far, I am deeply interested in its culture and its flowers are such a joy and pleasure that only a June thunderstorm will drive me into the house.

My first bloom on my gift plant was such a delight and wonder to me that when I moved to another home and found a tree Peony, a plant of *Queen Victoria, Fragrans* and a single white, I thought I had the finest collection known. Soon after this I saw a Peony manual advertised and sent 25 cents to the late C. S. Harrison for it. My eyes were opened and the quest was on.

Throughout the book was the love of the beautiful and the possibilities in seedlings and the names of others who were interested. I wrote to several. Mrs. Pleas was the first to answer and gave me much valuable advice and great pleasure in the Peonies I bought that fall. Mr. Brand's letter went to California and by the time it was returned and answered it was too late for planting, but I secured them early the next year and eagerly watch his new ones, and believe today I have the largest collection of Brand Peonies, outside of his own, that any one possesses, and how they do grow in our Indiana soil and how beautiful they are.

When I began to add European varieties, disappointments came—such tiny plants—and long waiting for bloom and sometimes sickly looking foliage.

When I spoke before your meeting in 1916, some one asked me, "What do you do with plants when the foliage turns black and dies during the summer?" I answered, "I never had one do that." I can answer that question now. It is dug and burned in the furnace. No matter what it is, it is advisable to destroy at once. It is usually a small, new plant, but do not run the risk of infecting your other plants or your soil. Some varieties should be put on the black list—why they are sold I do not know.

Fertilizers.—We are using too much fertilization in our zeal for large flowers and fast propagation. Many are over-feeding, and the roots received this fall show it. New ground needs nothing at first—a covering of forest leaves in the late fall spaded in between the rows in early spring, and a handfull of hardwood ashes in a circle around the plant four inches away from the stems, is all our soil requires. I killed one row with bone meal; injured another with liquid manure in blooming time and still another with barnyard manure, so I have quit experimenting.

Propagation.—This is greatly overdone. Peonies resent their division too often, and so do we when we receive a division of a high priced Peony that can be put into a match box.

A friend wrote me recently that "he received two Kelway's *Glorious* at $30 each and the two roots combined weighed a trifle over two ounces." Our only redress is to return them. Every alternate year is often enough to divide for propagation; every ten years for good blooms. At least two growers have published records of Peonies 25 years old that are still blooming beautifully.

Exchanges.—This stage of the fever is very contagious. It was brought to us by growers who were afraid we could not afford to pay cash for all we wanted, it has spread to every corner. Some are so infected that they do not have any blooms. They divide every good Peony to use in exchanging and then divide the ones they receive. Some who are convalescent are asking for the rarest, choicest, highest priced ones in exchange for older varieties that are good, but very plentiful. The remedy seems to be unknown so the doctor prescribes an opiate.

Seedlings and Prizes.—There is a fascination about raising seedlings, but much trouble comes to the amateur, because he does not like to throw away any of them and each one seems worthy a place to bloom. We can see virtues in our own that nobody else can. I had fond hopes for that Harding prize myself but could not exhibit until 1920. Now I find I am disbarred from the Harrison Memorial prize because I have already named it, but I am sure all parents will understand me when I say, I would not change its name for ten such prizes, for it was named for my son who met death with the same sunshine on his face that the flower shows.

Quarantine No. 37 I consider a protection in every way. We surely need protection from disease in plants and bulbs as well as animal life. We are told by the remonstrators "that the flower loving public will be unnecessarily deprived of many beautiful plants." Now, I am a firm believer in the resources of my own country and am convinced that we can raise anything for which there is a demand, from armies to Peonies. There may be a scarcity of stock for propagating, but a questionaire sent out will find out what is wanted to start with, and I am sure we have growers who can far outclass the Hollanders when it comes to dividing Peonies. In a few years we will be greatly overstocked. Added to this a special permit may be granted which greatly modifies the measure for anyone who cannot stand deprivation. From a commercial stand point it will protect growers and tend to stabilize prices. Let us stand by Quarantine No. 37 and increase production at home for home consumption.

Planting.—When I read directions "to dig a trench two and a half to three feet deep filled in with well-rotted cow manure," etc., I smile. I wonder how the forty, fifty and sixty acre fields could be trenched, and who ever saw a Peony root reach three feet under ground. Why trench warfare for a peaceable, sun-loving flower? A writer in the *Garden Magazine* for August voices my sentiments when he says: "Some hysterical horticulturist wrote that a hundred years ago and every Peony man since has seemed to think it necessary to copy it. Imagine excavating two and a half to three feet for a planting of one hundred, or even fifty Peonies. It brings visions of steam shovels, straining horses, shouting men. The duffer who first wrote that ought to have added, 'and if you change your mind about the Peonies and decide to have a house instead, you will have an excavation ready for the foundation.'"

Plant in good garden soil prepared as you would for a garden by spading or plowing; set at an angle of 45 degrees with the eyes two or three inches under the soil. Press firmly; cultivate and then cultivate some more and do not divide if you want blooms.

Cut Flowers.—Do not cut below the second or third leaf. If long stems are wanted grow only long stem varieties, but do not ruin your plants by cutting to the ground. Cut for the house; cut for your friends; cut for your church and hospital and after you have cut for everybody you can think of, look your field or garden over and see if you miss any. "Give and it shall be given unto you—good measure, pressed down and running over."

Peony Seedlings.—When seed is dry enough to put into packages it will not germinate until the second year. Seed houses do not care to handle it because many people do not understand this and enter complaints when it does not come up the first year. It takes from three to seven years for a seedling to bloom, and about 50% come single. The others will be Japanese, semi-double and double. All Peonies do not produce seed and a rainy blooming season makes a short crop of seed. Added to this, a plant that bears a full crop of seed will not bloom as freely the following year, so it is best to cut all faded blooms back to the foliage except two or three that you want for seed. Most people who take the trouble to raise it plant it themselves, though I threw away eleven pounds last spring that I had stratified the preceding fall. The ground it took was needed to produce food and once sprouted it can not be put into packages and sold. It is fascinating to raise seedlings but it takes infinite patience and much care in cultivation. Several times a too zealous new "hand" has hoed up my one year old plants and some times a visitor will pick a pod or two to examine it, and it is usually one I have hand fertilized and watched very carefully. Yes, it takes patience to raise seedlings."

W. F. CHRISTMAN, Secretary.

Peonies and Acid Soils.

It is understood that Peonies will not thrive in a soil strongly acid or with surplus of alkali. Wood ashes which contain a large percentage of wood lime are recommended as a fertilizer for Peonies. The wood lime, operates to correct soil acidity. Other forms of lime, however, may be used to advantage where wood ashes are not obtainable. Fresh-slaked lime used rather liberally and thoroughly incorporated with the soil will sweeten it if sour or if of an alkaline character it will neutralize the alkali. Ground limestone is also recommended for acid soil and may be used in unlimited quantities without damage. As much as 2000 to 4000 lbs. per acre is recommended for general field crops, and we should say that the latter figure would be none too much for Peonies. There is no danger of using too much ground limestone and it need not be too fine. That which is rather coarsely ground is more lasting in its results.

Charcoal for the Garden.

As a manure for the garden charcoal is of especial value. It may be mixed, either crushed or in lumps, with the soil of pot plants. Besides rendering the soil porouse and facilitating drainage, charcoal is one of the most indestructible substances known, and has the property of absorbing carbonic and other gases yielding these up to plants as required for nourishment. It may be applied to the most delicate subjects without danger.

The charcoal would not "take the place of soot," which, when of good quality and the product of wood fires, contains about 3 per cent. of nitrogen, and a very little phosphates and potash, as well as other mineral substances.

Like the charcoal, it makes the soil darker, and thus may assist in warming light-colored soils by absorbing more of the sun's heat. If you have sufficient of the fine (wood) charcoal dust available for use in the open garden, sprinkle it fairly thickly over the soil and dig it in.—*An Australian Exchange.*

If not too late note what Mr. Hunt has to say on page 21 about protecting bulbs in storage from frost.

San Francisco's Year Round Floral Exposition at Its Best in February.

That sparkling bit of Vanity Fair, the Market street afternoon parade, passes in its course two corners where masses of gorgeous blooms are set like snares for the contents of the passer's pocketbook. Yet the lure is not a serious financial danger. A small amount commands a large gratification. It would hardly be correct to say that everybody buys flowers, but it is true that everybody that wants them can have them, for the prices are ridiculously small. All the long summer through, and a large part of the winter, 25 cents will buy a corsage bouquet of Roses, or a spray of Carnations and Maiden-hair, or a cluster of huge Chrysanthemums larger and more perfectly developed than ever grew in Japan.

In February, fifty cents will buy exactly such a mass of Acacia bloom as it takes ten dollars to buy in New York. A great, fragrant bunch of Violets that will perfume a room can be bought for a dime.

San Francisco is the only city in the United States that permits flower vending at free street stands, and one of the very few in which the climate would allow these perishable wares to be exposed for sale the year around. Most of the trade is centered at Market and Kearny streets, but the venders are all through the shopping district and are patronized by all classes.

The long-stemmed and odorous Princess Violets are especially noteworthy. Possibly the little district of Brasse, in Southern France, grows Violets as fine as the San Francisco variety, but no other part of the world does. Most of them come from the vicinity of Colma, just across the San Francisco line, in San Mateo county, where some four hundred acres of them perfume the air all through the long blossoming season. From San Francisco they are shipped up and down the coast, from San Diego to Canada, and other shipments go as far east as Kansas City and Chicago.

From March to June you will see the satin-petaled, shining glory of California fields and hillsides, the golden Poppy, called by the Spaniards "Copa de Ora," or Cup of Gold. It is a brave and living thing of fire, making in the valleys pools of dazzling radiance, and in places pouring itself down the western slopes of the coast hills in glowing carpets that can be seen far out at sea. Named botanically for the first naturalist that described it, Eschscholtzia Californica, it has been formally and by statute adopted as the state flower.

The regular retail florists, doing business in their own stores, make bewildering displays of Orchids, Lilies of the Valley and Poinsettias, showing a prodigal abundance of stock that only a vigorous and general demand would justify carrying.

Arrive by 7 A. M., or earlier, at the San Francisco Wholesale Growers' Flower Market, at 347 Bush street, just below the Stock Exchange. Here you will find assembled in a dim basement scores of gardeners and flower dealers, with such an abundance of floral beauty as you will seldom see elsewhere, for San Franciscans are a flower-loving people. It matters not what the season may be, June or December, January or August, there will be a wealth of bloom, and it does not have to be protected from freezing, even in the open air. The flower venders along Market street draw a large part of their supplies from this point.—*Western Fruit Jobber.*

San Francisco Flower Market.

Pansies for Spring Trade.

There is an increasing number of market gardeners who find it profitable to grow Pansies in cold frames for the spring trade. Thousands of sash are devoted to this purpose by gardeners in Philadelphia County, Pa., and there is no reason why gardeners in various parts of the country should not make this a profitable side issue to their business. It is important to use strictly high grade seed. This seed is very expensive, but it is absolutely necessary to use such seed if you want large, finely colored flowers. The second essential is a very rich, well drained soil. Sow seed in August and transplant to cold frames in from six to eight weeks. Water carefully and place sash on frames in the North about the first of November or when the weather gets quite severe. Ventilate on warm days in the fall and spring, and remove sash for other purposes about the first of April. This is a splendid line of work for boys and girls who want to make their own spending money.—(*Market Growers' Journal.*)

There is much valuable information in articles which are necessarily held over until the March issue.

Levi H. Read.

The death of Levi H. Read, of Deer Park, Ala., occurred on January 15, 1920. While we were not personally acquainted with Mr. Read, we knew him well by correspondence and his activities and enterprise were a matter of much interest to us. His plans for the future embraced a very wide range of subjects and we looked forward to his accomplishing some very important work during the next few years. His passing, therefore, comes as a great shock and disappointment to us.

Levi H. Read was born 57 years ago near Cabot, Vt. Here he grew to manhood and later emigrated to the state of Wisconsin where he spent several years. About twenty years ago he again changed his home to Southern Alabama where he has remained since.

Mr. Read early developed a love for flowers and plant life and has always been a student along that line. While still in his boyhood he began experiments with hybridizing and selecting, and was the originator of several improved varieties of vegetables which he disposed of to other growers and they were widely distributed. Many of them are still on the market. Mr. Read was a very close observer of nature and was ever looking for something new and better.

While a resident of Alabama he had associated with him another ardent plant lover and together they had established a plant, seed, bulb and nursery business under the name of L. H. Read & Co., and this concern had already met with some measure of success. After struggling all his life against the handicap of poor health and of restricted means, Mr. Read was removed from this life just as he could see light and success ahead and just as he could see the goal of some of his dreams.

Mr. Read undertook a unique campaign of advertising in THE FLOWER GROWER which we in every way tried to assist and he developed a descriptive style in the preparation of copy which we believe was destined to make a notable success.

Mr. Read succumbed to an attack of pneumonia. He was first stricken with typhoid fever and was recovering from that, but pneumonia set in.

H. E. Meader, Dover, N. H., president of the American Gladiolus Society, who last year offered one dozen corms of Kunderd's beautiful variety, *Myrtle*, to every person joining the American Gladiolus Society before August 18th, the date of the last annual show; reports that he has received a list of such new members from Secretary A. C. Beal, and that there are 38 of them, and that they have all been booked for a dozen *Myrtle* for delivery about April 1st.

Bound volumes of THE MODERN GLADIOLUS GROWER and THE FLOWER GROWER are still available, but may not be for any considerable time.

A Nature Study in the Mirror Lake Country.

"Glen Arden Farm," Chipley, Florida.

BY MRS. SARAH A. PLEAS.

[*Written expressly for The Flower Grower.*]

THIS PRETTY LAKELET is the result of recent excessive rains converting a small stream into a miniature Lake of the Woods where one longs to wade and gaze at the reflections in the water.

For a few years this was my delightful winter home, with a climate rivaling that of Whittier, Cal. Need more be said? Where the normal rainfall insures the uplands to blossom as the Rose, with its Dogwoods, Redbuds, wild Plums, Magnolias, Azaleas, and hundreds of other species equally brilliant and interesting with bushes covered with flowers, berries or fruits, converting the lowlands, ravines and swamps into the modern paradise of fauna and flora for the nature research student.

Mirror Lake, Fla., mentioned in Mrs. Pleas' article.

A drive of three miles brings us to our natural park where Limestone Bluff and Falling Waters are the center of attraction; where a small stream swollen by each successive rain falls over a twenty foot precipice disappearing into a self made sink hole apparently bottomless. These falls with their setting of overhanging, vine draped evergreen trees, with berry bearing bushes and big Ferns on the sloping, slippery, forbidding moss covered earth, are in themselves an enchanting panorama not soon forgotten, but the surrounding scenery is scarce less impressive, where the professional landscape gardener may well take lessons from Mother Nature.

Beginning at the waters' edge with tiny mosses, lichens and lycopodiums on up through all shades and degrees from berry bushes to the stately long-leaf-pine, countless cedars, a five foot Magnolia Grandiflora with branches of bloom within reach, its moss covered trunk fostering communities of small orchis. It would seem as if no species or variety has been left out.

Within a rod or so of Falling Waters are two ten foot trumpet-shaped open wells, said to be bottomless; probably created earlier by these same waters. Their sloping open tops like the larger sink hole are also bedecked with large Ferns overhanging, growing less as they recede from the light, intermingled with mosses. The wells have a wall of earth between, its twelve inch top bears evidence of being used by wild animals, and perhaps by our nature student, but should he lose his balance he will go direct to nevercomeback, probably landing in the subterranean stream of Falling Waters.

There are numerous small bodies of water but three or four rods across, with or without fish, called sink holes, that are practically bottomless. Naturally some of these have had their tragedy, so have some wells, yet they are a most desirable appurtenance to the stock farm since a freshet will not carry the fence, ducks and geese down stream.

The earth in Florida is of such composition that whilst the surface of a travelled road soon works up into loose sand, by digging down into the clay underlying and properly mixing the two, the same road is made as smooth and hard as one of cement. In time these roads will be as general as are the gravelled highways in the East, and no more expensive.

Here the wells require no curbing; all open ditches have perpendicular sides that never cave down, but in time are covered with moss and lichens.

On taking our annual joy ride with friends to St. Andrews Bay and the gulf, some sixty miles distant, we encountered a fresh demonstration of what Mother Nature and Old Father Time are continually doing somewhere. By the wayside, since our last trip through this uninhabited district, one-half acre of earth, more or less, has dropped out of sight leaving what is locally known as "Dl——s Pit," because it is bottomless and has no water. There being no witnesses to report when, how, or why it occurred, or whether the earth surrounding trembled or even groaned, as it certainly had just cause, we are left to conjecture. Who shall say but that all those old sink holes were not produced in the same manner?

Truly we know very little of the earth's creation except what we read in the rocks, stratified earths, the everlasting hills, some of them with fossil sea shells on their summit, travelled boulders, volcanoes, earthquakes, buried cities, and on seeing the things that he who runs may read.

Cultivation Brings Results.

Upon the cultivation of the soil will depend the successful growth of your garden crops. If you do not cultivate, do not blame any other factor if your crops fail.

Briefly, cultivation conserves the moisture in the soil, as it reduces evaporation to a minimum. By reducing evaporation it makes the soil warmer. All surfaces from which moisture evaporates rapidly, quickly cool. From an uncultivated soil moisture evaporates very freely, consequently the temperature is lowered correspondingly, and in some instances the difference in temperature between cultivated and uncultivated plots side by side has been found as much as eleven degrees, at a depth of eighteen inches; this of course is an extreme. What does this mean to the grower? Simply that if he cultivates properly the crops will mature much earlier than on a soil not properly cultivated, due to the increased warmth of the soil, and the yield will be larger, due to the moisture which was conserved.

Cultivation favors the access of oxygen to the soil, and by so doing aids materially in releasing or in rendering available the plant foods which are usually present for use by the crop. The chief of these, the nitrates, cannot readily be formed in a soil which is not cultivated, or improperly so. Soils which do not receive proper attention in the matter of cultivation, may under certain conditions become acid. In acid soils, substances purify. They do not nitrify, thus nitrates are not formed. This condition may be reversed by applying a dressing of agricultural lime to the plot.

Cultivation kills weeds. This is the third great purpose.—*Canadian Horticulturist.*

Effect of Cold on Color in Plants.

It has often been noticed that at the approach of cold weather, plants with red in their tissues tend to deepen in color. During a cool spring, even white flowers incline to a rosy tinge and plants with ordinary pink or pinkish flowers take on a more vivid tone. The red hues in flowers are almost always produced by a substance called anthocyanin which occurs in plants combined as a glucoside. Glucosides are substances which may be split up into sugar and some other substance. Thus chromogen split from a glucoside forms anthocyanin by oxidation. It is well known that cool weather checks the formation of starch and causes the food made by plants to accumulate in the form of sugar. A cool spring, therefore, makes more color in plants by causing an excess of sugar with the consequent formation of more anthocyanin. The same effects are caused by the increasing coolness of autumn days.—*American Botanist.*

The Iris For Florists.

BY WILLIAM A. PETERSON *in The Florists' Review.*

THE FORMERLY used term of German Iris was never correct, as it included many forms not botanically called "germanica." The French name of "fleur-de-lis" is familiar to all.

The English, Spanish, Siberian and Japanese Iris are, for a variety of reasons, eliminated from this discussion. as are all dwarf sorts which have stems too short for cut flower purposes.

SHIPPING SEASON.

There is hardly anything grown that can be moved with as little regard to season as the Iris. In the spring if a short plant is standing behind tall ones, move it forward any time, even when flowering, and it will go on the same as ever.

When moving Iris, cut back the foliage to a height of four inches, as well as remove most of the fibrous roots. If the leaves are not thus trimmed when boxed for shipment, the plants require more space and may be injured by heating in transit.

The regular shipping season is after August 20, and until the leaf stalks are not over four inches in height in the spring, barring when the ground is frozen. In latter years much local transplanting of Iris is done two weeks after they are through blooming in June.

To demonstrate the tenacity of life of an Iris root, I have cut all the foliage off a rhizome, together with all the fibrous roots, about July 1 and placed this tulip-like root on a shelf in the house, without any moisture, and planted it outdoors two months later and it bloomed the following season.

Anyone can divide the rhizomes, as the heart roots are called, leaving one tuft of leaves to each section of root. To obtain the greatest number of divisions, the plants should be lifted every two years. If one is short of land, they can remain undisturbed for many years, but do not multiply so rapidly.

PLANT IN WELL DRAINED SOIL.

Plant in rows two and a half feet apart by ten inches between plants down the row. Never set them more than one and a half inches deep in the ground. Though considered an aquatic, they do best in a well drained location.

When a blooming stalk is cut and developed in the house all the buds, often nine in number, will open in succession even if it takes ten days to do so, provided the water is frequently changed and the stems shortened. The withered blooms must be snapped off before they begin to curl.

The local trade florists who cultivate anything outdoors can do no better than to grow Iris. There are always some varieties at their best on Memorial Day.

They are dependable perennial bloomers, come earlier than most annuals, increase rapidly, require but little water, thrive even in partial shade and poor soil and never need covering in winter.

No other flower has so many combinations of color, especially of the delicate and unusual shades, and the name of rainbow flower is most fitting. They are absolutely hardy, as beautiful in form, texture and coloring as any orchid, and many are delightfully fragrant.

TABULATING VARIETIES.

The varieties of recent introduction so far surpass the old sorts that a modern list of best varieties is largely made of new names.

In tabulating the desirable varieties of tall bearded Iris, it seemed unwise to try to educate the public up to a botanical classification, because it was often found to be totally at variance with the usual grouping by color.

For instance, we find botanically deep purples, like *Kochii* and germanica, lined up with neglectas like *Archeveque, Monsignor* and *Black Prince*, and pallidas like *Caprice* and *Edouard Michel.*

Two things were dominant in making the division by color. First, the decided shades, like purple, violet, yellow and white were separated. Second, so many desirable yellows and smoke or bronze sorts appeared that all not really yellow were put together in a class as bronze. The same condition prevailed among the violets; so we rather arbitrarily divided them into blue violet and pink violet. Finally came those not included with the others, having a white ground variously mottled or penciled, which for want of a better name, we called "frilled." The universally known *Madame Chereau* belongs to this class.

When the standard or erect petals vary from the falls, or lower petals, the bloom is classified by the standards. This makes seven distinct groups as to color.

Next to consider is time of blooming, to obtain a well distributed list covering representatives of striking individuality over the greatest range of time.

MAKING A MASTER LIST.

As in our study of the Peony, we have made a master list of Irises. Here are first installed the absolutely unassailable varieties, then others are temporarily put into their respective sections until they finally demonstrate their fitness to remain or are superseded by similar, but more desirable sorts. A consensus of those studying together, assisted by the judgment of the large number of discriminating buyers who make their selections in the field, determines the most valuable. A test of five years is given to assure ample opportunity for full development. The annual record also includes the constitutional traits, and these share in settling which are to be carried.

Not more than seven kinds are wanted in a section, and less are preferable, to keep the maximum within fifty varieties. A preference is given to those whose standards and falls are of a general similar shade, as when massed they best carry out a decorative color scheme, though some representatives of two-color effects, like *Rhein Nixe* and *Walhalla*, are retained.

HOW SELECTIONS ARE MADE.

This program works out as follows: Take Iris *Cordelia*, a choice rich purple of the same shade and effect as *Monsignor*; when they are blooming side by side people always prefer *Monsignor.* We, therefore, after growing *Cordelia* for five years, sold out our complete stock.

Albert Victor and other forms of pallidas are too similar to the stalwart Dalmaticas and are not needed.

In my travels I have visited Goos & Koenemann in Germany, the originators of Iris *Koenig*, which is truly the king of Irises, and no longer carry its paternal parent, *Maori King*, which has such a short stem. They have sent out too many yellow and brown combinations for our list, but *Loreley* is a gem and the fastest multiplier on my place. Varieties like these have put *Sans Souci* and *Ossian* out of the running. On account of its short stem and slow propagating, we prefer the sturdy *Rhein Nixe* to *Clio.*

The list of frilled sorts is culled from thirty different forms, all pleasing but not essential.

Upon growing *Parc de Neuilly* and *Crepuscle* side by side for years, so little difference was found that the freer bloomer was retained.

For lack of constitution, in our climate, the following desirable sorts have been dropped: *Neglecta Black Prince, Oriflamme, Tamerlane, Diane* and *Ingeborg.*

A delicate pastel shade like *Cherubim* soon bleaches in the field to white and gives way to *Mrs. Alan Gray* as a more enduring pink. *Nuée d'Orage*, the storm cloud from France, though true to its striking name, under another appellation would be passed unnoticed as a neutral in the search of prospects for the hall of fame.

THE MASTER LIST.

The following classification represents my study up to

No other Flower combines so many colors as the Iris.

date and of course omits varieties not yet thoroughly tested out.

In the brief descriptions given, "S" indicates the erect petals, or standards, "F" the drooping petals, or falls. The inches shown designate the height of bloom.

The varieties are listed in each section in their order of blooming, the earliest appearing at the head.

REDDISH PURPLE.

Kochii (germanica) 24 inches. S. and F. both of the deepest purple. Buds soot black. Often sold under the name of *Black Prince.*

Governor Hughes (Fryer seedling), 28 inches, S. deep violet tinged with red. F. still deeper shade. Large orange beard.

Caprice (pallida), 30 inches. S. and F. a delicate purple blending into a silky lavender at the base. Has a decided grape juice fragrance.

Parc de Neuilly (pallida), 28 inches. S. and F. a navy blue of reddish tinge, with an ever changing effect.

Edouard Michel (pallida), 32 inches. S. and F. unusual shade of rich reddish purple.

Monsignor (neglecta), 28 inches. S. and F. velvety purple crimson. A stately, massive and imposing variety.

Iris King (squalens), 28 inches. S. bronze yellow, F. large maroon edged yellow.

Quaker Lady (squalens), 36 inches. S. lilac mauve, F. deeper shade with old gold tinge. A modest though highly pleasing effect.

YELLOW.

Mrs. Neubronner (variegata), 28 inches. S. and F. rich, clear golden yellow, best solid yellow. Like giant daffodils.

Darius (variegata), 26 inches. S. lemon yellow, F. amethyst with deep veining and yellow margin.

Loreley (variegata), 30 inches. S. breast of a wild canary, F. creamy white with purple reticulations blending into a velvety purple mass near the ends.

Sherwin Wright (variegata), 28 inches. S. and F. rich golden yellow without markings or shadings.

WHITE.

Florentina (species), 26 inches. S. and F. pearly white, source of orris root perfume; quite fragrant.

Mrs. H. Darwin (amœna), 28 inches. S. and F. satin white with a little purple reticulation at the claw.

Fairy (plicata), 36 inches. S. and F. resemble sun-kissed snow outlined by the faint azure of the sky.

Rhein Nixe (amœna). 36 inches. S. pure white, F. raspberry purple, edged white. A most vigorous grower, always dependable. The only one of the white standards and purple falls worthy of being kept in our list.

La Neige (variegata), 26 inches. S. and F. a pure waxy white without any throat veinings.

A block of Irises on the William A. Peterson grounds.

BLUE VIOLET.

Walhalla (interregna), 24 inches. S. light violet, F. dark purple, showy, large flowers. A striking bicolor

Gertrude (pallida), 34 inches. S. and F. same shade,. rare violet blue. Peterson variety.

Perfection (neglecta), 30 inches. S. fresh lavender, flecked with deeper shade, F. rich velvety lavender, dark reflections. Bicolor. Has more blossoms on one stalk than any other sort.

Dalmatica (pallida), 44 inches. S. and F. delicate lavender with pink reflections A pastel shade much sought for, with broad glaucous foliage.

Alcazar (squalens), 36 inches. S. blue violet, F. rich ruby slightly veined.

Violacea Grandiflora (pallida), 32 inches. S. and F. fresh clear violet. Massive and blooms late.

PINK VIOLET.

Dorothee (germanica), 20 inches. S. and F. a robin's egg blue blending to a deep heliotrope.

Mrs. Alan Gray (pallida), 22 inches. S. and F. delicate orchid pink, all the same shade.

Lohengrin (pallida), 33 inches. S. and F. pink silvery mauve, shading nearly to white at the claw. A tall, strong grower, with wide leaves. Undoubtedly the most desirable of all the pallidas.

Isoline (squalens), 36 inches. *The Imperial Mandarin.* S. opalescent lilac three inches long, surmounting an apron of 3¾-inch mauve falls.

Her Majesty (pallida), 30 inches. S. pinkish violet tourmaline, F. deeper shade heavily veined. The most pink variety in the collection.

Queen Alexandra (squalens), 30 inches. S. lavender, F. pale purple, self-reliant in attitude.

BRONZE.

Prosper Laugier (squalens), 30 inches. S. fiery bronze, F. velvety ruby purple, like a pansy bloom.

Eldorado (squalens), 32 inches. S. fiery opalescent, F. old gold silhouetted with burnt purple,

FRILLED.

Ma Mie (plicata), 32 inches. S. and F. clear white, delicately frilled blue lavender.

Madame Chereau (plicata), 42 inches. S. and F. clear white with distinct frilled blue lavender edge.

Parisiana (plicata), 28 inches. S. lavender pink mottled all over, F. creamy white center heavily bordered with lavender pink.

Mercedes (plicata), 30 inches. S. purplish lilac shaded brown toward claw, F. ivory white ground veined and dotted purple.

Mary Garden (Farr), 28 inches. S. pale yellow flushed pale lavender, F. creamy white minutely dotted and veined maroon.

Grandmother's Garden.

In grandmother's garden the Roses red
Grew in a long, straight, garden bed,
By yellow Roses with small close leaves ;
And Yuccas—we called them Adams-and-Eves !—
Threaded with fringes of fairy weaves ;
By Marigolds in velvet browns,
And Heart's-ease in their splendid gowns;
Primrose waiting the twilight hours:
Touch-Me-Nots and Gilliflowers.
Was it October or June, or May,
Grandmother's garden was always gay.

In grandmother's garden the Iris blue
Unfurled his banner, his snood leaves drew
And marshalled the slim, red Tulips tall,
The Peony's bursting crimson ball,
The Almond wands and the Moss Pinks small,
Buttercups spendthrift of their gold,
Columbines misers of sweets untold,
Gay Sweet Williams, and Four-O'Clocks,
Prodigal sheaves of the cool white Phlox,
The lovely Army has long marched past
For grandmother's garden could not last.

—*Woman's N. F. and G. A. Monthly Bulletin.*

Forced Lilac.

One of the most beautiful of our hardy shrubs is the Lilac, and, fortunately, it is one of our best hardy shrubs for forcing during the winter. For this purpose it is admirably adapted, for it will force in almost any place where a temperature of 50 degs. can be maintained. Even a cellar or dark Mushroom-house will answer. Of course, under such conditions the flowers will be white, and there will be an absence of foliage.

It must not be supposed that because the Lilac so readily responds to heat no preparation is necessary in order to achieve the best results. One often sees it recommended to dig large bushes up from the shrubbery, and either place them in very large pots or wrap the roots in damp mats and place them in heat at once. Such rough treatment is not likely to meet with much success. In the first place, although these large bushes appear to show an abundance of flower while in the shrubbery, the actual number of flower-trusses is small compared with the size of the plant when forced, because it will be found that a great percentage of the promising buds will be blind, and in nine cases out of ten the result will be disappointing. Far better have smaller and neater plants with an equal quantity of bloom on them, and in suitable-sized pots, such as might be used conveniently in house decoration. To obtain such plants some care will be needed. In the first place, such kinds as are known to force well must be selected, and above all, refuse "grafted" plants. Unfortunately, it has become a common practice with the nurserymen to graft nearly all Lilacs on the Privet. Even if it were necessary to graft, the Privet is a most unsuitable stock. Again, why graft a plant which will root as readily as a Gooseberry or Currant, and which can be grown with a clean stem just as easily? If cuttings are taken in October, prepared in a similar way to Gooseberries, and planted in a similar way, a very large percentage will root and quickly grow into plants suitable for forcing in three years. They should be pruned much in the same way as Red Currants the first two years. In the third year, of course, no pruning must be done. Encourage them to make well-matured growth, not necessarily long growth, but stout, well-ripened shoots, such as are seen in well-established bushes in the shrubbery. This can be accomplished by a little attention at the proper time of year, carefully running the spade round each plant and slightly lifting early in September. This simple detail is the most essential of all in the preparation for forcing. This is just sufficient to check any further growth and cause the buds to mature thoroughly. As soon as the leaves begin to change colour the plants might be potted and stood in an exposed part of the garden, where they will get the benefit of the autumn sun and November frosts. This will further mature the buds and bring the plants into first-rate condition for hard forcing, if this is found necessary.

The same plants cannot be forced every year. They must have a season to recoup. They can, however, be forced every second year if properly attended to, as above described.—T. Arnold in *Gardening Illustrated.* [English.]

The organization of the American Iris Society is taking place in New York as we go to press this month. From all indications it would seem that this organization will be one of the most active in the country, and those who are interested in the Iris even in a small way, should become members. Like our other modern summer-flowering plants its possibilities have not yet been fully developed.

Queries and Answers Department.

"All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication."

Gladioli from Seed.

To the Editor:—

Do all seeds in a Gladiolus seed pod produce exactly alike or does a new variety originate from one seed only, and consequently from one corm?

Answer:—(By A. E. Kunderd)—The above question from your correspondent is really a double question. Of course, a new variety of Gladiolus could only originate from one seed and consequently from one corm, but not all seeds in a Gladiolus seed pod produce alike, and generally not even near alike. In fact, as a rule no two varieties of seedlings are alike, and of course, each bulb must originate from a single and separate seed. This is true not alone where various crosses are made but almost as much so where the seed pod has been fertilized by its own pollen, or self-fertilized. The descendants of any variety of the Gladiolus, usually vary a great deal owing to their mixed ancestry. These facts are true of varieties generally. Even where a pure species is used to produce seed, and consequently bulbs, and where the seed has been produced by self-fertilization many of the seedlings vary considerably. This result from seeds of true species is perhaps owing to the facts of changed environment such as soil, climate, season, etc. The off-spring of the Gladiolus whether from varieties or species, are more variable than most other flowers and this is partly why the Gladiolus has given us so many varieties.

A. E. Kunderd.

Answer:—(By Joe Coleman)—Personal experience answers the above question, at least, to my own satisfaction. Three years ago I made a difficult cross with the result of securing but one seed pod containing about 20 seeds. These seeds nearly all grew and bloomed the past season. Each bulb produced a variation, in several instances, decidedly pronounced.

Plant a million seed and there would be mighty nearly a million variations, many nearly alike, but on close inspection a little different. Thus the seedling game is fascinating in the extreme.

Joe Coleman.

Storage of Gladiolus Seed.

To the Editor:—

How do our most successful growers of Gladiolus seedlings manage the planting and care of the seed? I have some very choice crosses and do not wish to lose the seed.

S. R. A.

Answer:—Gladiolus seed needs no particular care if well matured on the stalk. If the best germination is expected it should be matured on the flower stalk before cutting, but good results have been obtained by cutting the stalk before the seed has fully ripened. After the seed pods are thoroughly dried, the seed may be separated from the pod, but it is not at all necessary to separate the little seeds from the "wings" with which nature has provided them so as to scatter them widely by the wind. It was formerly the practice to go to much trouble to clean the seed out of the "wings," but this has been found entirely a waste of time and unnecessary. The seed after ripening may be stored in a paper bag or paper box in any dry place.

When planting it is customary to scatter the seeds either in drills or broadcast and cover lightly to a depth of ½ inch to ¾ inch. Then a piece of heavy burlap or old carpeting should be laid over the seeds to retain moisture while germinating. After sprouting covering should be removed and the seedlings watered frequently during dry weather.

Madison Cooper.

Fertilizer for Gladioli.

To the Editor:—

I wish you would discuss the fertilizer question and tell us the best fertilizers to use for Glads to supplement stable manure, and also when stable manure is lacking entirely. How are wood ashes for Glads? I know it is claimed that ashes produce off-colored flowers, but that would not hurt me much because my ground seems to produce flowers with off shades. Even *Panama* and *America* were so badly splotched in some cases that you would hardly recognize them.

F. B. R.

Answer:—The correct fertilizer to use for Gladioli, in common with other crops, depends largely on the present cultural conditions of the soil to be planted. It may be assumed from what you say about tinted blooms that you have a plentiful supply of potash in your soil. This being the case we would be inclined to recommend ground limestone and acid phosphate in combination with stable manure; applied at the rate of about 100 pounds ground limestone and 50 pounds of acid phosphate to the ton, (say one wagon load.) If soil were in need of potash we would prefer wood ashes, and our method is to scatter these very thinly and apply them each year. Therefore, with wood ashes, we do not consider it necessary to use the acid phosphate as hard wood ashes contain not only lime and potash, but also the phosphoric acid which acid phosphate supplies.

The past season has been an exceptional one for the tinting or striping of the more delicate colors and it was caused generally by the plentiful rains and extremely warm weather prevailing. It is doubtful if we have another such season for some years to come. The tinting of bloom this year was quite general.

You can hardly grow any crop without stable manure unless the soil is pretty well filled with humus already, but humus may be supplied by growing a crop of rye, rye and vetch, buckwheat, or what is perhaps better, a clover sod, and plowing it under when in full bloom. This will supply humus as quickly as any way and will take the place of stable manure, but, of course, you lose the use of your ground for one season.

Madison Cooper.

Do Gladiolus Cormels Develop at the Expense of the Corm?

To the Editor:—

If it is true that small bulblets get more growth if the corm is left longer in the ground, is it not at the sacrifice of some of the value of the corm if the roots of the corm are no longer active? R. A. S.

Answer:—The growth of cormels as we understand it, is directly from the roots and not from the new corm, and, therefore, there is no sacrifice of quality in the corm by leaving it in the ground for a longer period so as to get the greater development of bulblets. We believe that the roots of a Gladiolus corm are active as long as they remain in the ground unfrozen so far as the developing and maturing the growth of bulblets is concerned. Even though the corm has ceased to grow and the foliage been killed by frost or by ripening, yet the bulblets will keep on growing and maturing, and as the growth is from the roots rather than from the corm, we cannot see where there will be any damage to the corm in leaving it in the ground as long as possible so as to get the greatest growth of bulblets.

Madison Cooper.

Tulip Wm. Copeland.

This, apparently, is one of the few Darwin Tulips which not only early lends itself to cultivation in fibre in bowls, but, as grown by Messrs. R. H. Bath, appears to be much improved. Indeed, nothing could have been more beautiful or refined in appearance than the bowls of it seen at the Scottish Drill Hall on March 11. Nor were size of flower and stature lacking, nor, on the other hand, had the examples that weakly, attenuated appearance too many Darwins assume when grown under glass, proof of their impatience at being forced. Rather was the sturdy and strong growth an evidence of the amenability to the treatment named. It is of the heliotrope set and immeasurably superior to all others of this shade. *Rev. H. Ewbank*, of a colour akin, was also good.—S. V. S. in *Gardening Illustrated.* (English.)

Advertisers should remember that the advertising forms close on February 15th for the March issue. February is a short month and necessarily everything must be ready earlier than usual or it will bring the March issue late. Monthly publications are necessarily planned much in advance and the exact space determined far ahead of the date of publication.

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"WHAT'S IN A NAME?"

[*Written expressly for The Flower Grower.*]

By Bertha Berbert-Hammond.

> What's in a name? That which we call a Rose
> By any other name would smell as sweet.
> – *Romeo and Juliet.*

What's in a name? More than many fully realize. I doubt if even Shakespeare who wrote

> "Of all flowers
> Me thinks the Rose is best,"

and who refers to this favorite flower in his plays over ninety times would have mentioned the Rose so many times had this flower been known by a name not so pleasing in sound or less adaptable to rhyme or meter. I believe that the fact that the word "Rose" is so easy to pronounce and rhyme has done much to make the name a household word and has added something to the popularity of that beautiful flower. An easily remembered, euphonious name is surely a distinct advantage. Beautiful as are many of the varieties of Japanese Iris, the gardens of many flower lovers would certainly be without them if the owners were compelled to order their varieties verbally by their Japanese names. Suppose that you fancy the white flecked maroon colored varieties. Can you imagine being obliged to order them by the almost unpronounceable names of *Taiheiraku Tsurugi-no*, or *Yezonishiti?* Or should your taste incline toward the odd purplish blue shades, would you enjoy having to "mouth" such names as *Fora-odori* or *Shiza-no-ura-nami?* That some dealers obligingly number as well as name their stock of Japanese varieties and urge customers to order by number does not indicate an accommodating disposition only, but also a keen eye to business. That a popular name has a great commercial value is recognized by manufacturers and men in all lines of business, and it is quite usual for them to pay enormous sums for "catchy" names that they copyright. The British government has recently prohibited manufacturers and dealers from using in any of its colonies the word Anzac (a word coined from the initial letters of the Australian and New Zealand Army Corps that rendered such service during the war.) The trade use of the word had been quickly adopted by business concerns, but the idea of this word being commercialized seemed almost sacrilegious. With a similar thought in mind our own government forbids the commercialization of the American flag.

Gladiolus—*Madam Mounet Sully*

Originated by V. Lemoine & Son, Nancy, France. Large milk white blooms with an attractive dark orange-red blotch. Listed by Lemoine as very early.

Though the name Gladiolus is agreeable to the ear, the fact that many flower growers found difficulty in pronouncing the name in both its singular and plural Latin forms, may have been one reason that the magnificent Gladiolus was so long in coming into popular favor. Some over-zealous persons have probably unwittingly further handicapped varieties by giving them cumbersome or manifestly inappropriate names. The privilege of naming a seedling of merit should be regarded not only an honor but a responsibility, for the name bestowed may help or hinder the demand for the variety. While the ability to "hit" upon a name that is appropriate, is a talent still to the hybridizer who has spent years of effort and close study in the production of a worth-while seedling, the distinctive characteristics must be so apparent that it should not be a very difficult task to bestow a pleasing name that will in a measure describe its most pronounced characteristics. Good examples of this are *Lilywhite,* which is in itself a description, and *Liebesfeuer* (love's fire) which suggests the beautiful fire red color possessed by this variety. *War* (red); *Peace* (white); *Dawn* (coral pink); *Daybreak* (light pink) *Golden King* (yellow) *Blue Jay* (blue) and others are markedly fittingly named. *Pink Perfection* seems a misnomer, as the crooked stems characteristic of this variety can scarcely be considered a perfection.

The practice of naming varieties after persons, while not so commendable, is pardonable. To have one's name perpetuated through the medium of a beautiful flower is, indeed, an enviable distinction. But even here christeners might study the name of the person it is proposed to honor and select therefrom the distinctive part of the name instead of bestowing long, cumbersome names that may prove not only unwieldy but often quite incongruous if not a commercial disadvantage. A notable exception of this is the name *Mrs. Dr. Norton.* This name is not only cumbersome but quite incorrect as to good social usage. While in some European countries it is customary to use such expressions as Mrs. Dr., Mrs. Lieutenant, etc., in the best social circles in this country it is not considered "good form" for a lady to use any suggestion of her husband's religious, professional or military rank. The name of this beautiful variety as it now stands, must prove offensive to those who are well versed in good social forms. If the Doctor is the one who is to be honored the name should have been Dr. Norton, if his wife is the fortunate one, then simply Mrs. Norton would have sufficed. The name now is also unwieldy. Growers, dealers and many others have long since cut the Gordion Knot and for convenience called the variety merely *Norton.* Perhaps the shortening of the name may have assisted real merit to overcome the handicap, for certainly this superb variety has despite its name become commercially in great demand, an exception that only proves the general rule.

The Poinsettia.

"The Poinsettia produces an abundance of milky juice; such plants are more difficult to root than others. Two sorts of cuttings may be made, hardwood and softwood. In making the dormant wood cuttings the plants, after flowering, are placed under the bench of a warm house and gradually allowed to ripen by withholding water. During March the canes are cut in 4 in. lengths, and after the milk has stopped flowing, the cuttings are washed in warm water and dipped in powdered charcoal. Place in a moderately dry propagating bench at a temperature of 65 degrees. As soon as roots have started cuttings should be potted in thumb pots.

For making softwood cuttings, the plants are started in April. Shake the soil from the roots of the old plants and pot in smaller pots. The storage roots will soon cause the growth of good cuttings.

When several inches long, the cuttings are taken with a heel.

They may be rooted in the sand bench or potted immediately and placed in a close propagating case. Cuttings may be taken all spring and summer; the earlier cuttings will give the taller plants."—From Commercial Plant Propagation by A. C. Hottes.

We look for an early and mild spring as a partial compensation for the unusually severe winter so far experienced.

American Gladiolus Society.

Members of the American Gladiolus Society :

The members present at the last annual meeting at Detroit know that the Society voted to hold the next meeting at Cleveland, Ohio, in connection with the meeting of the Society of American Florists. The Cleveland florists were glad to have us meet in Cleveland, provided they could make certain arrangements for our entertainment. Owing to local conditions, it was not possible last August for them to make definite promises. It was expected that the matter would be settled in October or November. However, it developed that nothing satisfactory could be arranged until the officers of the Society of American Florists had an opportunity to view the exhibition halls and discuss plans with the local florists. When this was done recently, it is understood that the officers of the Society of American Florists objected to having our exhibition in the same hall. Naturally the Cleveland florists will be very busy with the larger meeting and they did not feel that they could properly take care of us this year. This decision is a great disappointment to all our members who looked forward to an unusually large display of flowers and a very successful meeting in Cleveland. It will be an especial disappointment to the Ohio growers who have worked for the meeting.

It may be said in connection with the attitude of the Society of American Florists that their summer show is a trade display, and since it is a trade display they do not wish to admit the public in large numbers even for an admittance fee. Some of our members had difficulty in getting into the hall last year, and while this would have been provided for this year by issuing tickets to our members, it did not seem possible to admit the general public to our show. If the American Gladiolus Society expects to popularize the Gladiolus, one of the most effective methods is to open our shows as freely as possible to all those interested in flowers. The very successful independent show at Buffalo in 1918 under the war conditions, should encourage us in the belief that under peace conditions we can hold as satisfactory annual meetings and exhibitions as we could ever hope for in connection with the Society of American Florists and Ornamental Horticulturists.

PRIZES AND OUR NEXT SHOW.

We should be making plans for the next annual exhibition. All members are urged to send the secretary contributions to list as prizes. These should consist, as far as possible, of cups, medals, or cash. Let us, if possible, get away from offers of bulbs or stock. Prizes for open and amateur classes are desired so that there may be a well-balanced show. It is hoped that growers will contribute liberally so that a good competition will be aroused. Contributors are urged to consider the desirability of offering, particularly in the amateur class, third and even fourth prizes. Nothing encourages an amateur more than the feeling that if he fails to win first or second prize, he may at least gain a third or fourth prize for his effort. Any suggestions for the improvement of the prize list will be thankfully received, and if sent in at once will be considered in connection with the premium list for our next show. We need more prizes for table decorations, hampers, artistically arranged vases, etc., of Gladioli. Who, among those who did not make any offer last year, is going to be first to come forward this year? This year's show merits your full support. Will you give it?

A. C. BEAL, Sec'y.

The Weed Prairie.

TO THE EDITOR :—

I would like to share with all the readers of your excellent magazine, especially all those who love wild flowers, what I consider a beautifully painted word picture, and which I found several years ago in an old book under the title of "The Scalp Hunters."

One would scarcely expect to find a tribute to flowers in a book with such a title, but the author, although an Indian hunter and plainsman of pioneer days, was also a Nature lover, as proven by many passages in the book, descriptive of the plains in those early days.

I hope among your readers many will find the pleasure that I do in reading it as today when the outside world is snow-bound, and the thermometer hovering around zero, these lines bring back to me the warm sweetness of the Summer winds, across the prairie meadows.

MRS. ELIZABETH CARMICHAEL. (Iowa.)

"I stand in an open plain. I turn my face to the north, to the south, to the east and to the west; and on all sides behold the blue circle of the heavens girdling around me. Nor rock, nor tree breaks the ring of the horizon. What covers the vast expanse between? Wood? Water? Grass? No, *flowers.* As far as my eye can range it rests only on flowers, beautiful flowers. I am looking as on a tinted map, an enameled picture, brilliant with every hue of the prism. Yonder, is goldenyellow, where the helianthus turns her dial-like face to the sun. Yonder, scarlet, where the malva erects its red banner. Here is a parterre of the purple monarda. There the euphorbia sheds its silver leaf. Yonder the orange predominates in the showy flowers of the asclepia; and beyond, the eye roams over the pink blossoms of the cleome. The breeze stirs them; millions of corollas are waving their gaudy standards. The tall stalks of the helianthus bend and rise in long undulations, like billows on a golden sea. They are at rest again. The air is filled with odors sweet as the perfume of Araby or Ind. Myriads of insects whir their gay wings, flowers of themselves. The bee birds (humming birds) skirr around, glancing like stray sunbeams; or poised on whirring wings, drink from the nectared cups; and the wild bee with laden limbs, leaves for his far home with a song of joy.

"Who planted these flowers? Who hath woven them into these pictured parterres? Nature. It is her choicest mantle, richer in its hues than the scarfs of cashmere."

"This is the weed prairie, so called. It is mis-named. It is the Garden of God."

MRS. AUSTIN'S TALKS

[Written expressly for The Flower Grower.]

At the Grand Canyon.

UNUSUAL INTERIOR DECORATIONS.

Tick-tick-e-ty-tick. Surely a familiar sound, and raising my head from the pillow of my berth, I saw the driving, beating sleety snow that was tapping at my window. Oh, I had thought we were getting away from all that, and away down in Arizona, too, but it seemed that the nearer we were to our sunny goal, California, the colder and more uncertain the weather became.

Changing cars in blinding snow and the darkness of early morning, we hummed on, the gray dawn revealing pine clad mountains through which we were passing in swift ascent.

"G-r-a-n-d C-a-n-y-o-n, see it in a few minutes, if there's no fog," called out the conductor in sing-song tones, and there was great craning of necks only to meet with disappointment.

We were soon off the train and scrambling up the many steps that led to beautiful El Tovar Hotel, located near the head of Bright Angel Trail. Here we were informed that storms with such heavy snowfall were of rare occurrence and that we were really being treated to a sight seldom privileged the average tourist. With no sign of the storm abating we resigned ourselves to our fate which was far from being unpleasant for the El Tovar is not unlike a village with community service and interests, and while enjoying the cheering warmth of blazing pine knots in the huge fireplace of the Rendezvous, we found old friends from Ohio and made new acquaintances from other states and countries.

It was quite a treat to actually see your favorite *movie star* and observe that she ate, walked, and appeared generally much like the average woman.

Most interesting to me were the interior decorations of this wonderful lodge in the mountains. There were mounted head of the buffalo, mountain sheep, deer, elk and moose mingled with Indian and Mexican pottery. In the art rooms were beautiful paintings offered for sale, and others on exhibition in the public rooms, but those partaking of a floral nature, while quite unusual were in perfect harmony with the dark log walls of the interior and a fair example of making the most of what one has in a land far removed from flowers.

Arranged in the form of huge bouquets in curious receptacles, festooned over the various openings, softening the lines of recessed windows stuck in the uneven log walls, in fact it seemed wherever anything could be securely fastened, were draped branches and trailing vines. Perhaps the most familiar to the average eastener were the long trailing vines of ordinary hops, gracefully intermingled with various pines. Pinyon Pine, Western Yellow and the Long leaved Pine, brightened with Blaze Grass in scarlet and green. The scarlet berried Pepper Grass and the Sages of purple green and gray, with blue berried Juniper and long cones, measuring 15 inches and over, of the Sugar Pine. There were many of the berried branches of the Pepper tree so common in California and probably brought from there.

All the vines and branches had been cut in October, placed where they would be most effective as decorations. They dried slowly and would remain in place a year.

Table flowers in the dining room consisted mostly of Stocks, Carnations and Geranium plants.

The following forenoon brought the welcome sunshine. With its first ray I ran upstairs for my wraps and found myself gasping for breath. I had forgotten that we were over seven thousand feet above sea level.

A snowplow had cleared the way and in biting cold, we took the auto rim ride at the edge of the Canyon; beheld the scenic wonder in all its gorgeousness of color and fleeting cloudlets, and the Colorado river so closely resembling a silvery ribbon that it seemed almost impossible to believe it a roaring tumult three hundred feet wide.

CALIFORNIA IN MID-WINTER.

Thus far, my general glimpse, mostly from autos, has convinced me that the January sojourner is forbidden most of the floral beauty, for aside from such garden flowers as Geraniums, Calla Lilies, and the charming Bouganvilla which is everywhere a beautiful sheet of cerise, nearly everything seems dormant. But a mocking bird is singing in the Pepper tree by my window, the sun is shining warmly and I am content.

MRS. A. H. AUSTIN.

The Glad Philosopher's Musings.

It is regrettable that the flower that enjoys the distinction of being the first to bloom in the spring should bear a most unromantic name and be further handicapped with a very offensive odor. The Skunk Cabbage, whose technical name is *Symplocarpus faetidus*, is a member of the Arum family, and although very near akin to the Calla, was much less favored when the charms were being bestowed at the creation, and consequently has not made as great a hit with the flower-loving public as its lovely sister. But, while the Skunk Cabbage may be no more fragrant than a Dutch lunch or a steerage cabin at the end of a rough voyage, yet there is entrancing beauty in the jewel-studded lavender-flesh colored perfect flowers that grow, each upon a finger-like spadix within a greenish, leathery-leaved spathe, suggestive of some hidden grotto in an enchanted fairy land; and it will well repay anyone who has never seen it to visit some swamp or sluggish streamside where it grows, in March, when the shell-like spathes, shaped like monk's hoods and æsthetically decorated with purple, green and yellow, all blended and streaked with a peculiar charm, have emerged and stand proudly erect to herald the fact that spring is again returning.

What is the first sign of spring? That would be, indeed, a hard question to answer, for, as Thoreau wrote, "No mortal is alert enough to be at the first dawn of spring." It cannot be the blossoming of the witch-hazel, for while its flowers are abundantly found in the woods in January, they are the last of the season's flowers instead of the first, since the witch-hazel comes into bloom in October and November. It may be the cawing of the crows that through the winter have been quiet in their wooded retreat; or the honking of the wild geese going north in great trains overhead; or it may be the dripping of the icicles at night, for icicles are the product of late winter, and their drip, drip, drip, at night is an unmistakable token of overcoming warmth. While the snow still lingers, the catkins of the willows and the birches begin to swell and burst; the chickadees and juncoes come out from their winter seclusion in the woods; the song sparrow opens the year's season of song; and the bee and the mourning cloak butterfly appear. The mottled hoods of the skunk-cabbage emerge from the swampy places, and soon nature's winter tourists begin to arrive, the procession headed by the robin and the bluebird; but which of the two arrives first, must be, as it always has been, a question for argument. In their wake comes that detestable bird with the harsh voice that has been likened to the squeak of a rusty wheelbarrow, the purple grackle, our common city blackbird, who has no friends and, moreover, deserves to have none. By this time signs that are unmistakable are appearing in great profusion, and every department of nature seems to be scrambling to make its next important announcement. The appearance of the transient fox-sparrow, the purple finch and the Peabody bird; the hepatica, the bloodroot and the trailing arbutus; the fiddleheads of the cinnamon fern; and the peeping chorus of the hylas, are but few of the many signs that spring is already here, and only needs the appearance of the organ grinder to fully establish the fact.

THE GLAD PHILOSOPHER.

Attention is called to the American Gladiolus Society announcements on pages 32 and 34.

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FOR BOTH AMATEUR AND PROFESSIONAL FLOWER GROWERS

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Growers are invited to contribute articles or notes over their own signatures, but the Editor reserves the right to reject anything which in his judgment is not conducive to the general welfare of the business.

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> *"He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers."*—ZOROASTER.

The High Cost of Leisure.

Vice-President Thos. B. Marshall is quoted as follows: "One of the old ideas of the Republic was that the limit of striving for success was the limit of capacity and endurance." Another quotation attributed to Vice-President Marshall is: "To produce more, to earn more, to economize more, and to save more."

This is good logic and the advice is good and all should heed it. While it may seem discouraging at times to endure so many people who are nonproducers, mostly the so-called "idle rich;" yet every individual as the first principle of good citizenship should strive to produce to the utmost. They owe it to their American citizenship, as well as to the world at large. Those who do not produce as they should or up to the limit of their reasonable ability, will surely fail to progress as they should. Work is the remedy for many of the ills of human life and about the worst thing that could happen to any individual is to get into a frame of mind or a position where he feels that he need not exert himself to earn a living.

MADISON COOPER.

The Spirit of Competition.

Competition induced by the desire to excel in any particular line of work is the real basis of all progress. Competition is, of course, selfish in its nature, but the natural law of the survival of the fittest can be based on no other ground. We cannot all excel in many different lines, but one may excel in his special line.

Even though one cannot excel in the field he happens to find himself in, it must not be a cause for discouragement or failure to compete. One is strengthened by competition and one of the grandest traits of character is good sportsmanship. A good sportsman smiles under defeat if beaten in a fair contest, and resolves that he will do better another time.

What is said above applies not only to competitive flower shows but to any other line of human endeavor, and we believe that if we all fully appreciated the underlying principles of competition that we would be better satisfied to compete even though there is but a small chance of winning. Good sportsmanship and fair competition, with a constant effort toward improvement will develop our faculties which should be the chief aim in life.

MADISON COOPER.

Climatic Compensations.

There are always compensations for the hardship, if indeed it is a hardship, of making a home in a northern climate. Those who live in the north and experience the cold days and the colder nights of winter, and have their gardens held in the grip of Jackfrost for "many moons," should remember that in latitudes where vegetation is still making growth that there are many diseases and a long train of trouble still making headway, which are unknown in northern localities.

South of the latitude of the Ohio River, the actual frozen season is short, yet during the entire winter season they are subject to frost damage which is likely to be even greater than would be possible further north. In the south they feel that they should be able to grow the tender plants, and often depending on the mild climate to grow tender plants results in tremendous loss. In the north we know that the tender things cannot be grown and make our calculations accordingly. It is pretty safe to say that actual frost damage in the north is far less than in the south.

Truly all climates have their compensations.

American Gladiolus Society Annual Flower Show.

We are informed that after considerable work and extensive correspondence, the executive committee of the American Gladiolus Society have found it impossible to make arrangements with the Cleveland Florists' Club, to hold the annual meeting and exhibition of the American Gladiolus Society with the next annual meeting of the Society of American Florists and Ornamental Horticulturists which is scheduled for Cleveland next August. It was confidently expected that proper arrangements could be made, and on invitation from the Cleveland Florists' Club representative in attendance at the last meeting of the American Gladiolus Society, it was voted that the next show should be held in Cleveland.

As it is now too late to make other plans for a western meeting and show, the next exhibition and meeting of the American Gladiolus Society will doubtless be held in Boston in the spacious halls of the Massachusetts Horticultural Society. The matter has not been officially decided as yet, but we are authorized by President Meader to make this statement. The Massachusetts Horticultural Society have their regular Gladiolus exhibition on August 14th and 15th, and it is presumed that suitable arrangements can be made so that the show of the American Gladiolus Society can be held at the same time.

This arrangement will doubtless be agreeable to the majority of interested people as last year the show and meeting was held in Detroit, and after showing in the east for 1920 it is probable that arrangements will be made early and definitely for a western show in 1921.

A large list of prizes and specials is offered for Gladioli in the Massachusetts Horticultural Society's regular schedule, and it is urged that the secretary of the American Gladiolus Society be given hearty support in making up the prize schedule, to which some have already generously contributed.

THE DAHLIA

Planting Dahlias.

The time for planting Dahlias varies according to the locality; whether the spot is sheltered or open, early or lateness of the season, and the time when the general crop of flowers are desired. Dahlias can be planted any time after danger of frost is over, and under ordinary conditions, will blossom in from six to eight weeks after planting. It is always best to wait until the ground becomes thoroughly warmed.

Plant the bulbs in hills or drills, laying them flat down six inches deep. I find many amateurs make the mistake of standing the bulb on its end, so that the sprout will be near the top of the ground, thinking they will help it. Instead, the new bulbs which form, will grow near the top of the ground, and when a dry spell comes the plant becomes stunted; the plant produces principally foliage and few flowers in the blossoming season. Planting the tubers flat down six inches deep, no matter how dry the season, the plants will receive sufficient moisture to keep them growing.

If planting with manure, cover an inch or so, before planting bulbs; fertilizer should be thoroughly worked into the soil. Either fertilizer or manure will burn the sprout, so be sure the sprout does not come in contact with it.

J. K. ALEXANDER.

Success With Dahlias.

The blooming period of Dahlias is shortened by early frost, as the blooms and growth are tender. Where only a limited number are grown in a garden, they can be protected from a light frost by covering with a sheet, table cloth, paper or anything convenient.

A smudge smoke made by burning trash of any kind is a big help in keeping the frost from falling. Where a spray system is in use, by keeping the sprayer going, will also help. Anything that will keep the first September frost away will often lengthen the blooming period of Dahlias for two or three weeks.

A man having a garden of beautiful well grown Dahlia flowers, no matter how humble his position in life, feels rich in being the owner of so much that makes the garden and home beautiful.

There is likely to be failures with Dahlias as with other flowers. Even the large growers have their troubles to contend with, but taking one year with another, the Dahlia cannot be beaten for producing a good crop of blooms. Insect pests which gather on other plants growing near Dahlias, when short of other food, will attack the Dahlia.

Separate plantings should be made at intervals of two to three weeks between. The late planting very often doing the best, as the plants mature during the cooler weather and longer nights and make a more sturdy and insect resisting growth and generally produce the finest flowers. Those planted early very often get woody, but cutting the flowers with long stems or cutting the plants back, if done early in the season, will renew the growth and produce nearly as good flowers as those planted later.

The main thing is not to be afraid to use the knife on them. This is often required in thinning out, some varieties growing too thickly to produce fine flowers. If extra large flowers are wanted, they are obtained by disbudding. As soon as the buds can be seen, pick out all but the main bud, thus the entire strength goes in the one flower. This can only be done in the large flowering type. The smaller flowered varieties do not justify the trouble.

One point in which many fail, is in the wintering over of the roots. The varieties that form large clumps with big tubers are not so hard to keep, as they will keep where potatoes can be kept. Some of the finer varieties do not make much more than a mass of fine rootlets which are very hard to keep; in this case they want bedding in dry sand, earth or some material that will keep them from drying up.

My own experience with the Dahlia goes back a goodly number of years, when as a boy my father had a dozen or so of double ones in the garden. I was so struck with them that I thought nothing could equal them, and I offered a sixpence that I had saved up for the privilege of calling one Dahlia plant mine.

My next experience was in Maryland during the civil war. As a young man, I had charge of the Dahlia patch on the place my father was managing, and I had the honor of putting a lot of them on exhibition at one of the horticultural shows, held in the Maryland Institute, in Baltimore, Md. This apparently was the first exhibition of Dahlias given in Baltimore. It attracted much attention, many spectators hardly believing they were natural flowers.

If I remember rightly, this collection was purchased from the late Peter Henderson, and I believe that if the American history of the Dahlia could be traced out, he was the first to introduce the Dahlia in variety and quantity to this country.

My sincere hope is that this American Dahlia Society may continue its good work so nobly begun so that every home, no matter how humble, wherever there is a garden spot, Dahlias may be planted and the country beautified.

(Address by President Vincent at the meeting of the American Dahlia Society.)

Bud Variation in Dahlias.

Now that the season for Dahlias is again with us, the growers will not only be concerned with the number and quality of blooms produced but will, in addition, endeavor in many cases to bring forth new varieties. In this connection it might be well to call to the attention of Dahlia growers in general the fact that, in the past, not all of the new creations have originated from seedlings, even though a great many people seem to assume that this has been the case. In looking back carefully over the history of Dahlia varieties, it is very clearly brought out that bud variation has been responsible for the origin of many of the valuable varieties of Dahlias. In this connection, the method of propagation, together with variation in soil, climatic conditions and culture have probably been the most important factors concerned in bud variation. Of course, it is generally recognized that the most common method of propagating the Dahlia is by the division of the tubers. Propagation by cuttings is also a most common method employed by the majority of the larger growers in all sections of the country, and it is by this method that certain bud variations whenever they occur can be perpetuated.

Numerous cases might be cited to show that bud variation in the Dahlia is no new or recent phenomenon and that while growers may continue to produce new and good seedlings they should, nevertheless, be on the lookout during the growing season for bud variations, which are sure to be found in any sizeable collection and which may prove, if selected and perpetuated, most desirable acquisitions.

(Prof. J. W. Gregg in Bulletin of the Dahlia Society of California.)

American Dahlia Society.

The American Dahlia Society for years has been considering the establishment of large "trial grounds" at some place easy of access in the eastern part of the country. With the coming of the end of the war the project was renewed. After considerable negotiation the society has decided to accept the offer of the New Jersey State Agriculture Experiment Station at New Brunswick, and work will be started at once to make the grounds ready for the planting of bulbs late next May.

Owing to the growing popularity of the Dahlia during the last fifteen years, the American Dahlia Society has become one of the largest horticulture organizations in the United States, numbering several thousand members. The Dahlia is one of the few flowers which is grown successfully in almost any part of the country. One of the great difficulties has been in classifying the different varieties, the number of which no one knows. For instance, several people in as many places will introduce the same variety, and it has been impossible to prevent duplicates or flowers similar to those already in existence being placed on the market.

CONFUSION IN VARIETIES.

This confusion in a rapidly growing profession and hobby is one of the reasons for establishing the new trial grounds. Smaller trial grounds are located at Ithaca and Storrs, Conn., but these two places have not been popular, as they are not on the main lines of trans-continental railroad systems. Many members of the society come to New York occasionally and it would be easy to stop off at New Brunswick.

Members of the society will send in the bulbs and they will be planted during the latter part of May and the first of June. They will be classified under the supervision of Dr. J. G. Lipman, director of the station. The display in the autumn, it is expected, will be the greatest ever exhibited in the country. After the classification has been made it will be known how many varieties there are and it will be easy to inform any grower in the future if his production is a new one. Dahlia growers in sending their bulbs to the trial grounds will be protected, because no bulbs or seedlings will be given away or sold. Surplus bulbs will be returned to the grower so that the producer of a new variety will control that variety.

CONDITIONS ARE IDEAL.

Establishment of the Dahlia trial grounds will be a great boom to the profession. The soil and climate around New Brunswick are said to be ideal, and the trial grounds will be a permanent institution, growing in importance each year. New Jersey is now a great Dahlia state, and there are large growers of the flower near here, notably in South Orange, Short Hills and Madison.

Only one difficulty remains to be met in establishing the trial grounds. The experiment station is conducted by the state, and the annual budget is prepared a year in advance. There will be an expense of not more than $400 in preparing the grounds.

(*Concluded on page 42.*)

WAYSIDE RAMBLINGS

THE CIRCUS STYLE.

Every one who has been observing has noticed the peculiar literary style of the circus poster. The dictionary and Roget's Thesaurus have been exhausted in the effort to find adjectives. Such words as "stupendous," "immense," "awe-inspiring," "unparalled," "gigantic," etc., etc., are piled up in the descriptions without limit. Something of this style of language sometimes appears in advertisements of flowers. It is true that some flowers and plants are so beautiful that it is difficult, if not impossible, to aptly portray them but these things are matters of comparison and it sometimes happens that the superlatives are applied to something which is little better, if at all, than other old favorites. So I think the wise ones are inclined to discount considerably advertisements from those who have a reputation for exaggerating descriptions. Let us be enthusiastic but try to discriminate.

Geo. S. Woodruff.

THE EXPERIENCE OF A REAL FLOWER-GROWER—AN APPEAL FOR MORE FLOWER GROWING BY WORKING PEOPLE.

I have read your December number and I heartily agree with Mr. Andresen about having a "Flower Garden Bogey." The name though isn't exactly pleasing to me. I confess I had to resort to the dictionary to find if it had any other meaning than the one nearly every child is familiar with. Like the majority of working people I know nothing of golf and the word "Bogey" brings that little shivery feeling I knew as a child. However, if I am to use the term at all, I prefer to *be* a flower bogey rather than have one. Nevertheless I *have* the "Flower Garden Bogey." Oh, yes, I have the *feeling* and all I need is money, money and more money.

Last spring I wanted some of Mr. Kunderd's lovely bulbs and like most women I "simply had to have a hat." Probably most men have heard that phrase before. At present prices I could not get much of a hat for the sum I had to invest and I could get a lot of nice fat bulbs. So I got a nice lot of Mr. Kunderd's Gladiolus bulbs and made a hat myself! I really did, and what is more, I made my winter hat, too, and got some Tulip bulbs. I am going to keep right on making my hats and I'm looking for "more worlds to conquer," and every penny I save goes towards a new bulb of some sort.

Several of my neighbors laugh at my joke (?) "It will buy a new bulb," when I tell of my adventures in thrift. They don't suspect me yet (perish the thought) but some day I hope that little saying of mine will take root, and then—we will have some more "Flower Bogies!"

Why is it that the average working people—that is, people who live comfortably, dress well, and regard electricity, bathrooms, hard wood floors, moving pictures and ice cream as necessities—look upon flowers (other than a few annuals) as luxuries? Can't you write a real stirring appeal to this class of people to grow flowers, those who rent as well as owners of houses? Make it a patriotic duty ("beautify the old U. S. A." or something of that sort, you know) or a religious duty or a duty they owe themselves or children, or any old reason to get the idea *across.*

Mrs. S. B. Herd.

Note by the Editor—

Well, we are all "working people," or should be if we are not, and the real flower-lover is willing to deprive himself to get the rare things he wants. The above example is worthy of emulation everywhere.

A FLOWER AND NATURE LOVER'S TRIP TO LAKE GEORGE.

The A. M. was cloudy and when we got off the boat at Pearl Point, which is half way up the Lake, it rained very hard, but we went ashore in spite of it and ate our lunch on the covered porch of a closed hotel.

Within half an hour it cleared up and then we proceeded up the mountain. It seems that a very wealthy man purchased Pearl Point, closed the hotel and built a wonderful home on it a few years ago, which burned to the ground last year.

Leading up to it are rustic stairways, benches for lovers, and winding paths grown over with vines which finally lead to an Italian garden. Such a pergola and such a vine growing over it, sounds like a story book, and what a view of the Lake. West from the pergola is a path bordered with perennials which were just in their glory and we picked bunches of them. Phlox of every color and description and a bush that I have decided is a Butterfly bush. A butterfly kept coming again and again to my bouquet which had sprays of it in the center and so I decided that was it.

All things must come to an end and so did this delightful overgrown path, but it ended with a half circle of Hydrangeas which up in the mountain air were already changing from a delicate pink to a light russet shade. How luxuriant they were after the rain! I picked and picked and hope to keep them all winter. In front of them was a sun dial and a lily pond which, however, was past its best. How lovely to find such a spot away up on the mountain.

Then we proceeded a little further on and came to the ruins of the home. What a view we had of the Lake then. Think of it, we had three whole hours to spend in that little haven. We took pictures too, and should they come out good, you shall see a girl with bunches of Phlox in her arms and a happy smile on her face. How I wish I might camp up there forever.

There was a lookout house even further up which we went to and a track with a cable leads up from the shore which was used to bring up supplies. Think what it must mean to live among the clouds and have a garden such as that must have been a year or so ago.

The vine covered pergola won me with the sunbeams playing through it and I wondered what it must be in the moon-light. To most of those in our party it was a fine resting place with pretty flowers but that was all.

THE BEST TWELVE GLADIOLI.

You have printed in your columns from time to time individual lists of the best twelve or more varieties. These lists have contained varieties quite new to me, and no doubt to many other readers. All very interesting and useful to those who can afford to experiment with the newer varieties, whatever the price. But there are amateurs, who no doubt are just as keen on the Gladiolus, yet at the same time cannot afford to risk the expense in proving the value of the individually selected varieties. To help these keen amateurs, and others probably who may be deterred from starting planting Gladioli owing to the large number of varieties to choose from, would it be possible, with the assistance of the American Gladiolus Society, to obtain a ballot through your publication on the following, or similar lines:

1. *Garden Varieties* (Large)—(a) Red; (b) White; (c) Blue; (d) Yellow; (e) Any other color.
2. *Primulinus Hybrids*—(a) Red; (b) White; (c) Yellow; (d) Orange; (e) Any other color.

Each voter to place the names of not more than six varieties of each color in order of merit. If the idea could be carried out it would be very helpful.

S.

AVERAGE TIME FROM PLANTING TO BLOOMING OF GLADIOLI.

I have been comparing my own records of blooming dates of Gladioli with those of H. L. Hutt (Ont.) published in The Flower Grower of September, 1919, and find that my dates average one to two weeks earlier than his. Whether the difference in latitude would account for some of the difference in time, or not, I will not attempt to say.

I have kept these records of some varieties for four years, and of the rest for three years, and the list I am sending gives the average of all. There was very little variation from one year to another in the date of blooming for any given variety.

It seems to me that data of this kind might be of help in planting where one wants to have blooms ready for a special occasion, as an exhibition, bearing in mind that no one set of figures can hold true for all sections of the country. But if your grower knows the time required by any one variety from planting to blooming, he can calculate somewhere near the time required by another variety. For example if *Halley* blooms in 74 days for Mr. Hutt, I would add 17 to his 74, and get 91 days as the average blooming time for *America*, because I find that, on the average, *America* takes 17 days longer than *Halley*. The same plan works out well with other varieties on his list, so that I would expect that if he were to grow *Prince of Wales*, he would find that it would bloom in approximately 75 days.

Following is the list :

Variety	Days
America	82
Attraction	82
Augusta	77
Baron Hulot	74
Chicago White	72
Crackerjack	83
Dawn (Tracy)	80
Empress of India	75
Eugene Scribe	80
Firebrand	74
George Paul	76
Glory	83
Glory of Holland	83
Halley	65
Ida Van	76
Independence	88
Lavender Beauty	74
Lily Lehmann	73
Loveliness	82
Mary Fennell	80
Meadowvale	70
Minnesota	75
Mrs. Frank Pendleton	75
Myrtle	71
Nezinscott	76
Niagara	81
Panama	84
Peace	79
Peacock	74
Prince of Wales	67
Scarsdale	77
Schwaben	80
The King	78

THOMAS M. PROCTOR, (Mass.)

TIME FROM PLANTING TO BLOOMING OF GLADIOLI.

The number of days from planting to blooming of Glads seems to be of interest—of course it depends, as you say in the January number, on several things, but mainly on the time of planting. Records from last year's plantings—planting date April 29:

Variety	Bloomed	Days
Myrtle	July 15	77
Jessie	" 17	79
Halley and *Prince of Wales*	" 19	81
Willie Wigman	" 21	83
Mary Pickford and *Minnesota*	" 23	85
Cardisun and *Scarlet Velvet*	" 24	86
Empress of India, Bernice	" 26	88
Chicago White	" 26	88
Blacks 114, Blackhawk, Herada	" 27	89
Bluvista, Anna Eberius, Dominion	" 27	89
Mrs. Wm. Kent, Mrs. Francis King	" 29	91
Niagara, Rose Wells	" 29	91
Bertrex and *Mary Fennell*	" 31	93
Pink Perfection	Aug. 1	94
Schwaben	" 2	95
K. Glory, Burrell and *America*	" 4	97
Europa, Panama, Mrs. Dr. Norton	" 7	100
Kirtland	" 7	100
Princeps, White Cluster	" 9	102
Gretchen Zang	" 9	102

Now to show the difference caused by late planting—*Myrtle*, planted April 29, bloomed in 77 days; planted June 6, bloomed in 63 days; planted June 15, bloomed in 62 days.

A. C. CARPENTER.

A RED BIRD IN WINTER.

There has been a red bird at my place all winter, and this kind of a bird has never been seen here before. It is bright red all but its back, and that is brown-red and is a little smaller than a robin. It has a tuft of feathers on its head – a top-not. Down in the village of Mantorville two of them have been seen, and one of them is bright green. A few have delved into all the bird lore obtainable, and by the description they think them arctic birds.

WILLIS E. FRYER.

HOW TO ATTRACT THE SMALL GROWER AT THE FLOWER SHOWS.

This is a difficulty which arises everywhere. Do Societies bear in mind the old saying: "You must learn to walk before you can run." Those who are responsible for the drawing up of schedules are more generally large than small growers. They are used to seeing a bold display in their gardens and naturally wish to see the same on the exhibition benches.

Turn to the schedule of the American Gladiolus Society, and glance down the classes headed "Non-Commercial Growers." Can they be said to hold out any attractions for the small grower? He is asked to put up from three to ten spikes of each variety.

The National Gladiolus Society (England) has recently been wound up, and I have had the opportunity of reading some of their letters addressed to the Hon. Sec. on the subject. One letter contained the following:

> "Anyway so long as the three spike rule held the Society was doomed. I maintained this from the first and still stick to it."

Desiring more information, the writer was communicated with, and the following reply received.

> "Re my remark about the '3 spike rule' in the Gladiolus Society exhibitions. My contention was that it put too great a burden and expense on the small grower, amateur, or trade—but especially the former. A Gladiolus spike is an inflorescence, not a flower, and with such a capricious plant, in order to make reasonably sure of having on any fixed day one spike out (of exhibition quality) one would have to plant at least a dozen corms of each variety—say 4 at three different dates, so that in a class of 12 distinct varieties 150 corms would be necessary and I should not venture on entering for such a class when 3 spikes of each variety are necessary with less than 50 corms of each variety, *i. e.* 600 corms; *far beyond* the capacity of nine out of ten amateurs. And then consider the packing of 36 spikes and a few over in reserve! Gladiolus spikes are most tiresome and bulky things to pack * * * Any comparison with Daffodils and Narcissi, etc., is unreasonable. They are flowers, *i. e.*, single blooms and moreover do not give anything like the trouble or take anything like the space."

Look again at the classes set out on page 105 of your last volume (1919.) After the excessive number of spikes asked for, what strikes one is that particular varieties must be staged. The object, of course, is to increase sales, but would not the end be better attained by giving the amateur a freer choice? Take classes 97 to 106. These include ten varieties with prizes to the value of $50. Four of the classes did not fill, and the others attracted only one exhibitor. So that only six varieties were staged and those from the same garden. Suppose the ten classes had been reduced to three and had read as follows:

(a) Nine varieties, all of my introduction, one spike of each. First, $18; second, $9.

(b) Six do., do. First, $10; second, $5.

(c) Three do., do. First, $4; second, $2; Third, $1.

Would the results have been different? Perhaps. Why? An amateur may be able to stage 3, 6 or 9 varieties of his own choosing, but 99% may find that the particular varieties asked for do not, or not in sufficient numbers, figure in their gardens. This may arise because the schedule has appeared too late for him to make the necessary plantings.

Why not take a leaf out of the Seedsman's book? He advertises the fact in his own catalogue that prizes will be offered at certain exhibitions. He stipulates with the promoters of the exhibitions that the schedule shall be published early enough to allow any intending exhibitor to purchase the necessary seeds before it is too late to sow them. In the schedule before me the wording of one firm reads :

"Open to Messrs. W*** & Sons' Customers.
Messrs. E. W*** & Sons.
(Full address is set out.)
Offer the following Special Prizes :
Class 91.
For a collection of Vegetables
(6 distinct kinds.)

which must have been grown from seed supplied direct from their establishment in the autumn of 1919 or spring of 1920."

Sweet Pea growers also offer prizes for 12, 9, 6 or 4 varieties but very few stipulate the exact varieties. I have seen one or two particular varieties mentioned to be included, but very rarely.

The Seedsmen have learned their lesson.

GEO. CHURCHER.

WHY THE VARIATION IN PRICES?

The discussion about the wholesale price of Gladiolus bulbs brings out one fact and that is that there is no "Trust" and, evidently no collusion or agreement on prices. There seems to be no way for the grower to find out what the relation between supply and demand is going to be. So the grower who fears the demand will be relatively small and the supply large gets "cold feet" and quotes low prices. It is, of course, to be understood that if any of us felt *sure* he could get a higher price *he would ask it*. So I think I may say that the cause of the difference in prices is due to a lack of information—coupled perhaps, with a difference of temperament.

GEO. S. WOODRUFF.

EARLY PLANTING.

Last spring, on March 26th, the soil was in good condition for planting in this locality,—40 miles south of Pittsburgh, Pa. *Chicago White, Pink Progression* and *Jessie* planted on that date began blooming on July 1st.

A second planting of these sorts, on April 22nd, was in flower on July 8th. There was a gain from early planting of only a week. Still, from the flower market point of view, this slight gain was well worth while, and, in a season with more favorable April weather, might have yielded still earlier bloom.

HENRY MADTES.

The American Iris Society.

THE American Iris Society is a reality with already an enrollment of over two hundred and fifty members and we hope to double this number before the first Annual meeting in the spring, when each member in person or by mail may vote on the election of officers and be represented in the questions of policy still awaiting decision.

The American Iris Society organization meeting was in "The Mansion" at the New York Botanical Garden, Bronx Park, New York City, at eleven o'clock, January 29th, 1920. There were about seventy persons present. Among them were:

Miss Hazel Andrews, Leonard Barron, Prof. A. C. Beal, Miss Mary C. Bell, Lee R. Bonnewitz, Mrs. Bonnewitz and Miss Alice Bonnewitz, Mrs. Edwin P. Bond, K. B. Boynton, James Boyd, Floyd Bralliar, Mrs. Walter Brewster, Dr. and Mrs. N. L. Britton, Mrs. Francis S. Cleveland, Mrs. Theodore I. Coe, Madison Cooper, Mrs. M. A. Cumbler, Herbert Durand, Martin C. Ebel, Carl Ehrle, B. H. Farr, Mrs. Edward Harding, S. G. Harris, D. W. Hart, I. S. Hendrickson, T. A. Havemeyer, Mrs. J. Edgar Hires, Mrs. L. W. Hitchcock, Dr. Marshall A. Howe, Mrs. Herbert Johnson, Dr. Geo. E. Kent, Mrs. Isaac LaBoiteaux, Mrs. H. G. Lloyd, Mrs. Sam Montague, B. Y. Morrison, Geo. V. Nash, Mrs. E. D. Nevins, Mrs. Wm. Northrup, H. A. Norton, Mrs. Wheeler H. Peckham, Frank H. Presby, Mrs. Howard Pratt, Mrs. H. S. Putnam, Chas. E. S. Rasay, A. P. Saunders, Miss T. E. Schindler, George N. Smith, Mrs. J. W. Sperry, Mrs. Chas. H. Stout, R. S. Sturtevant, Winthrop Thurlow, Mrs. Henry G. Wells, Mrs. Alfred A. Whitman, Mrs. Louise B. Wilder, Mrs. Chas. Williams and John C. Wister.

Dr. N. L. Britton, director of the New York Botanical Garden, welcomed the meeting with the following address:

TO THE AMERICAN IRIS SOCIETY:

Welcome, on behalf of the Board of Managers of the New York Botanical Garden, with best wishes for the success of the Iris Society, and a proffer of cordial cooperation in your work.

It so happens that in the plans for the further development of the New York Botanical Garden now in progress, space has been assigned for an extensive Iris garden, on which work may be begun in the spring. This site, which has already been studied by some of your members, and to which, if arctic conditions were not prevailing we would escort you to-day, will provide up to three acres of mostly excellent soil, now in sod, partly level and moist, partly on a gentle slope to the southeast, partly in full sun, partly in half shade with a brook running through it, some rock outcrop and such pools as may be required.

To carry out a development plan the building of perhaps a mile of permanent paths will claim first attention in order to connect the area with paths already built and thus supply circulation for the many thousands of people who will visit and enjoy the collection; the regulation of the brook, now running mostly underground in an ancient stone drain, and the building of pools may go forward at the same time, after which the planting of the collections may follow. Minor architectural features may be supplied as occasion permits.

The cost of the work up to a point where planting may commence is not likely to exceed $3,000.00 as we have all the natural material for the paths within the Garden reservation, as well as all ordinary soil required. This construction work will all be accomplished by the use of a part of our Special Development Fund of 1920, now being raised by subscription. We have here a class of over 40 convalescent soldiers under instruction in practical gardening, and they will be turned in to help build the Iris Garden, as an excellent feature of their training. These plantations will be in juxtaposition to the collections of Rose Mallows and of Gladioli. We are confident that the development, installation and maintenance of this Iris collection will be of immense interest to all of you, and if it can be made to work in with the operation of your society the pleasure will be ours.

This development will be placed under the immediate supervision of Dr. Henry Allen Gleason, Assistant Director of the New York Botanical Garden, who has already been in consultation with members of the Iris Society and who made the preliminary arrangement for today's meeting; I much regret that he is confined to his house by illness at this time. His duties in today's meeting have been referred to Mr. Geo. V. Nash, Head Gardener.

You have chosen a wonderfully varied and entrancingly beautiful genus of plants to specialize upon; the important economic uses of Iris roots in medicine will, of course, not be lost sight of.

The botanical and horticultural literature of the genus is enormous, species of Iris occuring in every flora of the north temperate zone.

Please feel free to use the library of this institution on the upper floor of the Museum Building, for any references any of you may desire to make at any time. The only bad spot in this literature that I recall is the application by Linnæus (and therefore unchangeable under nomenclatorial laws) of the name *Iris Germanica* to the Fleur-de-Lis, the beautiful plant emblem of beautiful France; this is enough to make one want to throw rules for plant names into the discard!

Dr. Britton introduced Mr. James Boyd of Philadelphia, as chairman of the meeting. Mr. Boyd then appointed Mr. A. P. Saunders as recording secretary of the meeting.

Mr. Boyd after expressing his thanks to Dr. Britton introduced Mr. John C. Wister of Philadelphia, who read extracts from the proposed program for the Iris Society which was published in the January number of THE FLOWER GROWER.

Following the reading of this program Mr. Boyd appointed a committee consisting of Mr. Wister, Mr. Farr, and Mr. Thurlow to consider the outline as presented by Mr. Wister and to report upon any changes or amplifications.

He then introduced Dr. A. C. Beal of Cornell, who read the proposed constitution as a whole. It was then taken up for discussion, article by article, and after many amendments and motions this constitution was turned over to a committee consisting of Dr. Beal, Mr. Saunders, and Mr. Sturtevant, with instructions to re-draft it and to present the revised text at the afternoon session.

Following this, Mr. Boyd appointed a nominating committee for temporary officers to act until the annual meeting in the spring, as follows: Mr. Lee R. Bonnewitz, Mr. Madison Cooper, Mrs. H. G. Lloyd, Mr. B. H. Farr, and Mr. George V. Nash.

After the appointment of this committee, recess was declared and the luncheon was provided by the New York Botanical Garden. After luncheon, the constitution as revised by the committee, was read by Dr. Beal and approved with the exception of certain clauses, concerning associate and affiliated members which will be acted upon at the annual meeting (to be published in the April issue.)

With the adoption of the constitution the nominating committee proposed the following:

President—John C. Wister.
Vice-President—Wm. Peterson.
Secretary—R. S. Sturtevant.
Treasurer—Frank H. Presby.
Regional Vice-Presidents—
  For the East—B. Y. Morrison, Washington, D. C.
  Central—Mrs. Samuel H. Taft, Cincinnati.
  Western—T. A. Kenning, Minneapolis.
  Pacific—S. B. Mitchel, Berkeley.
  South—Floyd Bralliar, Nashville.
  Canada—Dr. F. E. Bennett, St. Thomas.
Directors—James Boyd, B. H. Farr, Dr. H. A. Gleason, I. S. Hendrickson, H. A. Norton, E. C. Shaw.

It was moved that the secretary of the meeting cast a ballot for these officers and they were declared elected.

Mr. Boyd then turned the chair over to Mr. Wister.

Mr. Beal brought forward a plea to establish at Cornell a trial garden of the Society and after long discussion on this matter it was turned over to the Board of Directors with directions to cooperate in every way possible with Cornell but to establish the complete collection at Bronx Park.

An unanimous vote of thanks was tendered to Dr. Britton who, in behalf of the New York Botanical Garden, has extended such generous hospitality and hearty cooperation to the new Iris Society.

The meeting then adjourned.

(Signed) A. P. SAUNDERS,
Secretary of the Meeting.

I wish to thank Mr. Saunders for the above minutes and also for his assistance in discussion. His experience was of great value.

Although there has not yet been time to receive acceptances from the appointees on the various committees certain matters under consideration may prove of interest and in many ways we need the personal interest of every member of the Society.

At the short Directors' meeting, THE FLOWER GROWER was adopted as the official organ of the Society for the current year; and it was provisionally planned that the Annual meeting should take place in Philadelphia about June 1st in connection with an exhibition for the East.

Members are earnestly requested to

file with the secretary a list of such varieties as he is willing to contribute for the establishment of public Trial and Show Gardens in various sections of the country. Arrangements can undoubtedly be made to cooperate in plantings at New York, Ithaca, Washington, Nashville, St. Louis, Minneapolis, and San Francisco or within the vicinity of these cities but only with the assistance of all will the Society be able to secure the necessary stock. We plan, in order to avoid duplication, to make specific requests for certain varieties and as far as practical, to ask for contributions only to plantings within your district.

The matter of classification will not be considered until the receipt of the report promised by The Royal Horticultural Society. It is hoped that if Time of Bloom is not made an important sub-division that we may accept it without change.

A description form for use in permitting an accurate comparison of varieties has been accepted by A. J. Bliss, Grace Sturtevant, B. Y. Morrison, John C. Wister, R. S. Sturtevant, and A. C. Hall and is under consideration by others. This will be available to interested members and their filed descriptions will be made the basis for the final authorized descriptions of varieties, will be checked at the trial grounds and may serve as the basis for registration of new varieties.

In accordance with Clause 4, Article 4 of the constitution, rules for judging, standard schedule, and premium list are under consideration. It is hoped that we shall be in a position to cooperate with many local Iris shows this coming spring.

Mr. Wister has already compiled a check list of over 1000 varieties, further additions are being constantly made, but it is planned to have it ready for March 1st.

Growers in various sections have been requested to report on the cultural requirements of Iris in their experience and this will form the text of an early publication. We expect to receive shortly also the views of many breeders on the possibilities of registration of new varieties.

The dues of an active member are $3.00 a year and anyone who is already a subscriber to THE FLOWER GROWER may have this additional subscription sent to a friend. A member is entitled: (1) To share in the transaction of business; (2) To receive notice of and attend all meetings; (3) To exhibit at any show held under the auspices of the society; (4) To make use of its library, and (5) To receive all publications of the society.

Through the kindness of certain individual members there are some books and articles available for loaning, and it is hoped that we may collect photographs, lantern slides, and lectures for similar use another season.

I trust that I may have the pleasure of getting in touch with many of you through personal correspondence and that with your assistance I may pass on the views of many upon the subjects that are of special interest to you.

TO MEMBERS OF THE AMERICAN IRIS SOCIETY:

Your personal interest in Irises and in the Society may be shown in many ways. Give your friends an opportunity to share the pleasure and benefit of being members, put the secretary of your garden club or horticultural society in touch with us, give preference to our members in your garden purchases. Share with us your experiences with Iris: from your surplus offer us stock of named varieties, tell us where you purchased them and when, so that show and trial plantings may be established in many cities, the varieties drawn from the most authentic sources. Before the April issue reaches you there will be printed forms for description, assist us by filling them in when your flowers bloom, add them to your garden records. By correspondence we may assist you in many ways, put you in touch with near-by enthusiasts, tell you where you may see good collections, recommend where unusual varieties may be obtained but all these chances to help really depend upon the expression of sincere interest by each and every one of you all.

You will like THE FLOWER GROWER, you will enjoy its Iris Notes and though there are many among its subscribers not Iris enthusiasts, you will find the amateurs sincere flower lovers, the advertisers reliable and with a real interest in their customers.

R. S. STURTEVANT, Sec'y.

Northwestern Peony and Iris Society.

W. F. CHRISTMAN, *Secretary.*

History and Development of the Modern Peony.*

BY CHARLES J. TRAXLER,

Ex-President Northwestern Peony & Iris Society.

"The dependable record history of the modern Peony in Europe commences in the early part of the eighteenth century and in America somewhat later, about 1880. No attempt will be made here to give the methods employed by the various introducers, either as to hybridization or culture. That subject alone is sufficient for another interesting lecture.

"The method here to be pursued is to show upon the screen representative blossoms of the best introductions from the date of the earliest dependable record down to the present time.

"It is not claimed that these photographs are equal in quality to the natural living flower. Peonies, I believe, have more individuality than any other flower. Much of this individuality, of course, is lost in the photographs, as is also the delightful charm imparted by a pleasant fragrance. The pictures I shall show you are from carefully selected negatives and the slides have been skillfully colored to represent the natural color of the flowers as nearly as art can imitate nature."

At the conclusion of the opening remarks came the illustrative part of the lecture, impossible to accurately describe. It was full of brief historical sketches of originators and introducers of Peonies from early in 1800 to the present time, covering a period of about 100 years. One or more of the best of each introducer's productions were projected upon the screen, showing the flower in its natural size and color.

For greater convenience of illustration and comparison Mr. Traxler has divided his pictures into three groups. The first group representing those introduced prior to 1880, the second those introduced between 1880 and 1900, the third group those introduced since 1900.

The general characteristics of the first group, Mr. Traxler said, were early blooming, comparatively small size of the blossom, and a tendency to a loose or semidouble formation, with a marking or splashing of the petals.

The general characteristics of the second group, Mr. Traxler said, are greater size, greater compactness, and a greater tendency to solid colors in the individual flower.

The third group, he said, was characterized by still greater size, longer and more delicately shaped petals, in a greater diversity of formation, clearer coloring and more artistic shadings or blendings of color.

The illustrations were excellent and were received with enthusiasm. They included practically all of the best productions that have been introduced since 1900 and many of the best productions that had been introduced prior to that time.

In conclusion, Mr. Traxler said: "Now, ladies and gentlemen, in what has been shown, you have seen, in art's best effort to reproduce nature, some of the greatest floral beauties the world has yet produced. Surely the cultivation of such flowers, of such surpassing beauty, means something more than a pleasurable pastime.

"They are a delight to all, to some of us they are an inspiration. To such they represent an appeal, nature to man, for help in a better and more perfect expression of the beautiful. To such they represent an appeal of nature and nature's God to all mankind to look from the sad, the sordid, and the sorrowful in life, to the bright, the beautiful and to the blissful.

"To some of us they represent purity and perfection. To such they represent the immeasurable joy awaiting in that strange and undiscovered country, from whose bourn no traveler returns. To such they represent a benediction, to them they are the approving smiles of God."

Attention is called to the special appeal we are making just now for new subscribers, and to the special offer we are making our present subscribers in connection with clubs of three or more new subscriptions sent in at one time. This appeal is going out as a circular letter separate from THE FLOWER GROWER.

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* Synopsis of Lantern Slide Lecture delivered at the winter meeting of the Society, 1920.

Improving Varieties of Flowers.

By William H. Phipps.

[Written expressly for The Flower Grower.]

There has ever been an effort on the part of some members of various professions to mystify the public with supposed intricacies of their work and to give the impression that the difficulties of mastering the work, are almost insurmountable. The writer has encountered some of these and found that they are readily solved by earnest application. It was the fortune of the writer to be appointed by President Taft to fill the position of Auditor General of the Philippine Government. When President Taft called me to Washington and asked me to accept this post, I hesitated to accept, and told the President that I was not an auditor. He replied, "You are a lawyer, are you not?" I answered that I was, and I accepted the appointment. Later I had the pleasure of receiving a cable from him, congratulating me on my work.

I found that accounts frightened most officials, and many required a personal explanation, all because they would not give them analytical study and consideration. Many accountants seemingly seek to mystify rather than to make plain, hence the impression that accounting is a profession only to be acquired by long years of study and practice, when after all if we but use good sound judgment systematically applied, it unravels so easily that one is amazed at the rapidity of solution. All this only shows that if we will but apply good sense to hybridization of flowers, the mystery sought to be thrown about the subject falls to the ground and even the amateur may produce fine new flowers that he will be entitled to name.

Suppose you are a stock raiser and want to raise fine pedigreed cattle, what do you do? You select for the sire and dam the best blood you can secure. If you want a race horse you select the winners of the turf sweepstakes for the progenitors of the colt who is to add to the glory of his forefathers. If you want to raise draft horses you do not cross a draft horse with a race horse. Nor cross a good breed of short horned durhams with the long-horned cattle of Texas. If you want to improve your Barred Rock chickens you do not cross with game rooster, but you select if you can a better Barred Rock. So much for our prelude.

You want to raise a better strain of Gladioli. No matter of what color, let us see what you will need to do. This flower has been so greatly improved in the past ten years that most of the older stock should be discarded. When we see the marvels that have been produced by Groff, Kunderd, Diener, Zeestraten, Vos, Austin and many others and compare them with varieties which were the vogue ten, twenty, thirty years ago, our judgment is soon passed. So if you want to produce a new kind that will do you credit, get the best that is grown and have them for the parents of your new seedling, for new strains are most surely produced from the seed and not from cormels, save and except a sport now and then, such as *Wilbrink* which is a sport of *Halley*.

Suppose you are trying to produce a new and better white—let us do this by crossing *Diener's White* with *Maine* which is claimed to be the purest white grown, or select any other whites that you think may aid you in your endeavor. The point being that you would not select a color and cross it with a white and expect to get a pure white. So with red—if you want to improve a red variety you will select the shades of red which when crossed will produce possibly the desired shade, neither as dark as one nor as light as the other. There is no end to what may be accomplished and accomplished as surely as in any other division of the animal or vegetable kingdom.

How shall this be done? It is not our purpose to go into the minutiæ of pollenation, either by hand or some other method. We pass by hand pollenation as a matter to be taken up and studied from the best authorities. It is not so difficult and is more certain in results but for the purposes of many growers the bees, moths and humming birds are very satisfactory servants as they pass from flower to flower and thus fertilize with the pollen carried in their search for honey. If you have a large field keep a few swarms of bees near by. You will get results in the seed you gather.

Suppose you plant the two varieties you desire to cross in adjoining divisions or adjoining rows. The bee comes along and dives into the flower on spike "A" and flies from there laden with pollen to the flower on spike "B" and this flower is fertilized; then the flower dies and the seed ripens to be carefully planted by you in the early spring; the second year you see a glorious flower unfold the like of which has never been seen. It is your child, the child of your tenderest care and you nurture it for a few years to make sure that it grows true to its promise. When you have proven it and accumulated a stock, you announce it to the world and have placed the flower so much nearer perfection; you have added so much to the beauty of living and the happiness of mankind.

If you wish to make sure of the result you can hand pollenize and look forward to the result with as much certainty as to the progeny of animals, for the same fundamental law governs procreation. Nothing is left to chance, God's laws are inviolate.

Some Gladioli are weak spiked, there the cross should be made with a strong spike. Any weakness should be bred out by cross breeding, whether this be in the spike size or color of the flower. You can do it—Groff, Kunderd, Diener and others have done it, and hundreds of others will. Let us not fall behind; rather let us strive to do better. We can, for they have prepared the way by placing at our disposal all that they have accomplished.

While I have used the Gladiolus in this article as my subject, what I have said applies with equal force to Peonies, Irises, Roses and the whole flower kingdom.

Floral Life from Past Ages.

As a result of the deep trench digging and the blasting out of shell holes by high explosives during the war in Europe, northern France has produced some interesting floral results. Strange plants and flowers unlike anything heretofore known are growing on the battlefield. It is believed that this is a result of bringing into action of the sunshine and air, seeds which have remained deeply in the soil for many years.

An instance is reported from northern New Jersey, where in dredging a stream, the materials excavated from many feet below the surface were scattered over the surface of neighboring fields. On these deposits an entirely different vegetation has started growth.

It is interesting at least to know these facts, and it is hoped that botanists will make careful study of the plants thus produced. It is hoped that the strange plants may be classified, and the age to which they belong determined.

It is possible, however, that they may quickly succumb under present climatic conditions.

American Gladiolus Society.

The following varieties of Gladioli are offered for registration by John Lewis Childs, Flowerfield, N. Y. If no objections are filed prior to March 15, 1920, the same becomes complete:

Conspicuous—(Childsii). Beautiful clear cardinal-red, with a large white throat. A very attractive combination of color. Originated by John Lewis Childs.

White America—Buds and partially expanding flowers pale flesh, 136 (1-2). Flower opens snow white, 2(1), with a faint streak of violet mauve, 195(1), or paler in the throat. Has the same strong habit of growth, form of flower and substance as *America*, of which it is a seedling.

A. C. Beal, Sec'y.

Sand Method of Preserving Flowers.

Popular Mechanics has a short article on preserving flowers by filling the petals and all parts completely with clean dry sand. We would suggest that it is important that the sand should be washed to free it from dust or dirt which will discolor the bloom. It is stated that flowers treated in this way after being buried in a box filled with sand and left for about ten days will completely dry up and they will then keep indefinitely with the colors and shape well preserved.

THE ROSE

The City Rose Garden.

Henry J. Moore in *Gardeners' Chronicle.*

THIS ARTICLE IS INTENDED more especially for folks who do not grow Roses than those who are skilled in the work. If, however, from it anything of value may be gleaned by the latter, it will be more fully justified. Those who grow Roses will have so learned to love them as to always grow them. Those who do not should be encouraged to make a start. If the most beautiful spots on God's earth are Rose gardens, let us have an army of Rose lovers, for nothing will so inspire and raise the human standard as that which is surpassingly beautiful. Perhaps even yet some folks need an inspiration.

During October and November the Rose garden may be laid out and the beds prepared. The shape and size of the beds will necessarily be governed by the size and shape of the area at the grower's disposal. There are two important points to be observed in the making of a Rose garden: (1) The soil should be fairly heavy and well drained; (2) The position must be open and sunny, and in cold localities be sheltered on the north and east.

The Soil—A clay loam is the proper soil for Roses. If blue in color it should be exposed for at least a year to the atmosphere before the planting is done. A red clay loam is usually fertile, a blue clay, however, may contain poisonous iron (ferrous) oxide on being first broken. When the oxygen of the air acts upon this oxide it converts it into ferric oxide, which is a plant food. Choose, if possible, a red clay loam for immediate planting, or if the planting is to be deferred, an aerated blue clay loam may be equally fertile. By the addition of fifty to seventy-five per cent. of clay loam, light sandy soils may be rendered satisfactory for Roses.

It is a mistake to heavily manure Rose beds when preparing the soil for planting. Many Roses are annually killed by the practice. Unless the plants are thoroughly established, that is, after new feeding roots have been formed, they cannot absorb the solutions which are formed as a result of the decay of the manure, consequently this food is lost as drainage. Stable manure should not be allowed to come in contact with the roots of Roses during the first year, unless in small quantities, and in an advanced state of decay, otherwise it will prevent the formation of a fibrous root system. A light application of rotted cow manure may be given when preparing the beds, about one barrow load to fifty square feet.

The Position—Discouragement coming through the failure of Roses to grow satisfactorily is often caused by the injudicious choice of positions; only open and sunny ones should be chosen. Roses are often planted under trees by the novice. In these positions the growth does not properly ripen during summer and fall, consequently abundant flowers are not produced the following year. Unripened growth will not stand our severe winters, thus we have two reasons for choosing an open position. It is better to select a high position than a low one for the Rose garden, that is, a position where water cannot possibly stand for a long time, especially during winter is a saturated soil harmful to Roses. If only a single bed is to be made a position high enough to be well drained should be chosen.

City folks have not the choice of positions that pertain in the country. They may, however, grow Roses equally as well as the more fortunate country people if thought is given to the selection of a proper position in which to plant. In the case of small city lots, the boundaries of which are often defined by walls or fences, advantage may be taken of these structures for winter's protection, and if the Roses are planted near the northerly to easterly boundaries, a proper southerly or southwesterly aspect will be afforded the plants. It is not wise to plant Bush Roses, hybrid teas and hybrid perpetuals very close to the walls or fences of a small enclosed city garden which in summer is likely to become unbearably hot; rather, plant at some distance from these structures, so that the Roses may enjoy the benefits of any breezes, (which may cause a circulation of air,) of showers, and of full light; benefits which might otherwise not be possible. In small enclosed gardens even the Climbing Roses will do better when growing at some distance from the boundaries, as, for instance, on pillars, trellis or arches. They enjoy the forementioned benefits, are not so liable to the attacks of insects, such as red spider, and if attacked they may be more readily sprayed. If for purposes of beautification it is desired to cover walls with Climbing Roses, they should be trained to trellis, which is supported a few inches from the actual wall, so that a circulation of air is possible between the foliage and wall, so that there is sufficient room for the use of the hose or for the application of insecticides. It should be borne in mind that dark walls absorb and retain heat during summer, some even to the extent of seriously affecting the growths of the Roses. Another disadvantage is that the heat from the walls and the cover afforded by the foliage afford ideal conditions for the red spider and thrips to multiply. Do not, then, nail climbing roses directly to walls.

Selecting the Roses—When selecting Roses for even a small garden the grower is apt to overlook everything in his or her desire to obtain vigorous and hardy kinds. While these characters in themselves are indispensable to the person who makes an initial attempt, there are other factors of equal importance which should not be overlooked. These factors are color, fragrance and duration of the flowering period, points which unfortunately may only be touched upon briefly in this article.

Were the writer making a small Rose garden he would plant chiefly hybrid teas, and for hardiness, general vigor and color, he would select *J. B. Clark, Gruss an Teplitz, Prince de Bulgaric* (rather a pity the last two have such names) and *Willowmere,* Roses which in Canada, appear to have given general satisfaction. Who can imagine a Rose garden without fragrance? To the aforementioned selection would be added any or all of the following scented kinds, and which with ordinary care during winter would be sufficiently hardy: *Edward Mawley, General McArthur, La France* and *Richmond.* Were there room for a few hybrid perpetuals the factor of fragrance would be found in *Alfred Colomb, Dupuy Jamain, Fisher Holmes, General Jacqueminot, Hugh Dickson, Mrs. John Laing* and *Ulrich Brunner.* These also being of good color and hardy. For exceptional vigor and color *Frau Karl Druschki* (Snow Queen,) *Coronation* and *Baroness Rothschild* would be included.

When Roses are grown in hot positions where during summer, as in the crowded heart of a city, little air can possibly stir, the darker colored Roses should be chosen in preference to the lighter ones, such as pinks, which bleach very rapidly in the sunshine.

The manner in which Roses are arranged in the Rose garden will depend entirely upon the number of beds at the grower's disposal. Where only one or two small beds exist as in the majority of city Rose gardens, the Roses should be mixed in the beds, mixed hybrid teas in one bed, and if the grower desires hybrid perpetuals these might be mixed in another bed. Hybrid teas and hybrid perpetuals, however, should not be mixed in a bed. The forementioned arrangement will allow the grower to enjoy the beauty of many varieties, not merely one or two, as would be the case were the bed planted with one variety.

In the case of gardens where several beds are to be devoted to Roses, the varieties should be arranged separately therein, thus we might have a bed each of *Richmond, J. B. Clark, La France, General Jacqueminot* or others for which we have preference. By this method a very pleasing general effect may be created because the grower has the opportunity of choosing suitable colors. Between the beds of hybrid teas and hybrid perpetuals, beds of the baby rambler, as *Maman Levavasseur, Gloire des Polyanthes, Jessie, Snowstorm* and others could be interspersed. These will flower a few weeks later than the hybrid perpetuals, and will greatly augment the hybrid teas when the first blaze of beauty of the latter has declined.

Planting—Roses may be planted during spring or fall. Experiments in the Queen Victoria Park at Niagara Falls, Ontario, where the winter's temperature occasionally falls to ten below zero, have repeatedly shown that not only may the hybrid perpetuals be safely planted during November, but the hybrid teas equally so, and with as much success as those planted in the spring. The plants of course were protected by a mulch of litter.

When planting, space the hybrid teas 18 to 24 inches apart, and the hybrid perpetuals 24 to 30 inches. Dig the holes wide enough to allow of the full spread of the roots, making these radiate from the stock, and so deep that when the plants are placed in position the "bud" (the point of union of stock and scion) will be two inches below the surface. Do not make the mistake of allowing the bud to remain above ground. Remove all broken roots with a clean cut, and plant the Roses very firmly. A few of the longest growths may be shortened, but proper pruning should not be attempted until spring. Do not protect newly planted Roses until frost permanently encrusts the soil. Those who do not intend planting until April or May should at least prepare the beds in the fall if possible.

Pruning—A good rule to follow when pruning Roses is to prune the weak growing ones, the hybrid teas, severely, and the stronger and more vigorous ones, the hybrid perpetuals and climbers, lightly. The reason of this is obvious. Severe pruning induces stronger growth. There are of course strong growers among the hybrid teas, notably *J. B. Clark* and *Gruss an Teplitz.* These should be pruned more like the hybrid perpetuals, these exceptions, however, do not alter the rule.

Prune your Roses after the last heavy frost of early spring. This will be in April or early May, according to locality. Cut the newly planted hybrid teas back to four inches above the "bud," and the hybrid perpetuals six to eight inches. In both cases remove entirely all weak growths, leave three or four growths on the hybrid teas, and four or five on the hybrid perpetuals, if this is possible. During the second and subsequent years, when pruning, cut the growths the forementioned distances above the previous season's growth, and remove all dead branches. Always prune the growths immediately above a bud or close to a branch, so that no stub will remain.

The pruning of climbers differs greatly from the previously suggested method and consists really more in thinning. Remove the flower trusses as soon as the flowers fade in autumn. Do not attempt to prune until spring, when remove all dead growths, thin out the weakly ones, and train all strong, young growths of the previous season in position. It is these growths that you will depend upon for flowers, to take the place of the old ones. If necessary to shorten the growths of climbers, cut them back to a sound bud, simply removing the weak ends.

Manuring—Roses do not require continual heavy applications of manure. It is the best practice to afford medium dressings annually. Cow manure is the best general one to apply. Should, however, rank flowerless growth be produced as a result of too much nitrogen from the manure, or should the beds become sour through its continued use, phosphates in some form should be applied. Super phosphate is excellent. It will aid greatly in the production of flowers, and also in sweetening the soil. It may be applied sparingly, about one ounce to the square yard, during spring. Bone flour or meal, also excellent phosphatic manures, may be applied during the fall. They decompose slowly, and may be relied upon to be of great value to the plants when flowers are forming during the following season. Two ounces to the square yard is about the proper amount to apply. Weak growing Roses may often be stimulated by applications of diluted urine from the stables. It is good to apply this to all Roses which are not vigorous, only, however, during their growing period.

Propagation—The amateur Rose grower usually does not care to practice the budding of Roses as the process though simple entails certain facilities which he does not always possess. There is, however, a very easy way of raising Roses from cuttings, one which anyone may practice, but which is not generally known. When Roses with fairly vigorous stems (not coarse) are cut for home decoration as soon as the petals fall make cuttings of the stems about eight inches long. Cut them directly below a joint at the bottom. Insert these firmly to a depth of about four inches in a shaded position of the garden in groups of four or five. Cover them with a one-half gallon or larger glass pickle jar, and water them occasionally. By fall many cuttings will have rooted, and the plants may be transferred to other positions during spring.

Notes on Pruning.

LILLIAN C. ALDERSON in Woman's National Farm and Garden Association Bulletin.

The first Roses to be pruned are the climbers. Perhaps your climbers have been neglected and left unpruned for years. In this case they may be so overgrown and tangled that the only way is to loosen the whole mass, untangle the growths as far as possible, and cut out the oldest canes down to the ground, prune back the laterals to from two to four vigorous buds, and tie again into place.

When the Rose is trained to a trellis or ornamental archway any shoots that will not conveniently tie in should be cut out. All the shoots should be tied on one side of a wire or trellis, never twisted in and out, as this method makes pruning each year an impossibility. The ties must be loose enough to allow the stem to grow.

The Wichurianas, such as *Dorothy Perkins*, require little pruning except thinning. They bloom later on the young growths. Wichurianas crossed with Tea Roses bloom more on the older wood so that these require less thinning out of old canes. Example: *Dr. Van Fleet.* Multiflora hybrids bloom profusely on their laterals with a drooping effect. In covering a trellis some canes should be shortened to produce laterals at a lower level. Example: *Crimson Rambler, American Pillar.*

Our special effect Wichurianas may have all the old wood cut out and the young growths bent over arches will break into a profusion of bloom. The Briers are not very vigorous growers and need practically no pruning beyond the removal of dead wood.

After the climbers have been tied into place the Bush Roses will most likely be needing attention. It is safer not to prune Bush Roses until after danger from heavy frost is over—about the last week of March or first week in April in the neighborhood of New York. After the winter covering has been taken off, look over each plant carefully and cut out all dead wood and growths that rub against one another. In pruning Roses one should always try to picture the plant that will result from the cuts made. The cut should be slanting just above the bud. A sharp knife will do the best pruning, but the amateur will do less damage to himself or to the Rose bush with a pair of good pruning shears, taking care to use them without twisting for fear of making a jagged cut.

As a general rule the weakest growers in each of the three sections, (1) Hybrid Perpetuals, (2) Hybrid Teas, and (3) Teas, should be pruned most severely, for the reason that they have not a sufficient flow of sap to supply more than a few buds. The strong growers, on the other hand, will supply several shoots with sufficient nourishment to produce good blooms. Hybrid perpetuals and hybrid teas may be pruned back to six eyes to produce a number of blooms, (2-4) buds for a very few large blooms.

Old clothing, a pair of stout gloves, a small pruning saw, courage, confidence, and a good pair of pruning shears are the necessary outfit for the Rose pruner.

A Thrifty Way to Start in the Gladiolus Business.

[*Written expressly for The Flower Grower.*]

At intervals I observe in THE FLOWER GROWER inquiries as to the best way to get a start in Gladiolus growing and with more or less interest I note the replies to such inquiries, such as advice to purchase bulblets and grow stock from them, or to purchase certain sizes of bulbs, and so on.

Whenever I read anything on this topic I think of how my wife made her start. It is not so prosaic as some of those other ways, hence may not be so practical, and possibly may not meet the approval of some of the more experienced growers, but it may interest their wives, so I am going to tell about it.

It began when I was considering what I should buy in planting stock, one Spring. I was looking over a special leaflet descriptive of one of the newer varieties which was yet rather high-priced, and made the audible remark that it was too expensive for me to indulge in.

Then up spake the wife: "How many would ten dollars buy?" I replied that it would buy a hundred or so in blooming size or five hundred little ones of a quarter-inch. "Well," said she, "I believe I will start in the business. Order the 500 for me. I have ten dollars that I'm game enough to invest in those, if you are not." "All right," said I, "Luck to you." And next day she said: "Better just order a thousand for me; I can afford that many." And so the order was given.

In due course the little bulbs came; twenty dollars' worth in a little bag, looking about like three cents worth of peanuts. The grower from whom they were bought was a personal friend of ours, and, as I had mentioned that Mrs. H. was investing in this particular item, showed his appreciation of her enterprise by sending her gratis a bulb of his own new and beautiful *Louise*, (then selling for three dollars,) another of *Mrs. Dr. Norton*, a dozen *Mrs. G. W. Moulton*, another dozen or so of *Mary Fennell, Rosebud*, etc., and last but not least a bulb of *Golden Measure.*

Such a box of treasures would have satisfied a man, but women, you know, are different. After delighted contemplation of them she turned to me and said: "You have a *Louise*, haven't you? Now it would hardly do for us both to be growing the same sorts so you may just give that to me." "Thank you kindly," sezzi, "And can't I also give you my *Norton* and all my *Moultons* and *Fennells?*" "Well, that is a good suggestion," said she, "then we will not get our stocks mixed."

So then she had a stock worth over fifty dollars, and, do you know, when my bill came and was ultimately paid, there was not one word said by her about that twenty, and I haven't seen it yet!

There are ways and ways to get a start in Gladiolus growing, but I claim this beats the rest of them.

C. R. HINKLE.

Unless we have a wrong estimate of the female sex we do not expect that Mr. Hinkle will be allowed to let the matter rest where he has ended. We shall not be surprised to hear from Mrs. Hinkle in next month's FLOWER GROWER.—(EDITOR.)

American Dahlia Society.

[*Continued from page 35.*]

The New Brunswick station has not the funds, and as the society will take care of all other expenses it is hoped that some Dahlia lover will advance about $400 to start preparations.

Edward C. Vick of 205 Elwood avenue, this city, is secretary of the American Dahlia Society, and he will be glad to accept contributions. Mr. Vick, who is recognized as one of the greatest horticultural authorities in the country, worked for many years in bringing the trial grounds to New Jersey. His collection of rare horticulture books is known over the world. (Newark, N. J., *Sunday Call.*)

Gladiolus Information.

The bound volumes of THE MODERN GLADIOLUS GROWER are still available as per advertising columns, and together with the files of THE FLOWER GROWER from January 1918 to date, containing without doubt, more information on the Gladiolus, Gladiolus growing and facts and information relating thereto than can be found in all other sources of information put together. Therefore, those who are interested in growing Gladioli should secure the complete bound volumes while they are still available. The present supply will not last long and the price will doubtless be higher.

Flowers and the Camera.

By Walter D. Boyd.

[*Written expressly for The Flower Grower.*]

We that follow flower growing as a hobby, without thought of monetary profit, are ever reluctant to see the ephemeral loveliness of the work of our hands and hearts fade away in the death that claims all living things. And especially is this true of those flowers that are expensive, or of which we may have but a single plant. The lovelier they are, the more we hate to see them depart out of our lives for the space of twelve months; the shorter their period of bloom and keeping qualities, the more unwilling are we to let them go. But go they must, the fairest and the finest, even as the homeliest and the cheapest, leaving behind nothing but memories to remain with us during the long year that must be traversed before we can have them amongst us once more, with the tedious, bleak hours of winter in between, wherein we can do little for our work except dream of and plan for the next season of floral endeavor.

True, one should not care to see the same flower in the same vase for months at a time, in which case the most beautiful would become commonplace; but it hurts to see some extra handsome specimen wilt after but a day or two of pleasure-giving. One feels almost as does the parent that bids good-bye to a child just starting on a long and hazardous journey, from which it may come back changed from its present self. One fain would keep it yet a while longer. One does not like to be dependent on memories only; for memory is ever an elusive fellow, whose nimble limbs enable him to evade our efforts to hold him fast.

Here comes to our aid the camera and its work, the photograph. The fond parent has photographs of the child to turn to while it is absent—a meager substitute, it is true, yet a true likeness of the loved one. Of course, one may not have so many children as flowers; so, obviously, to remember a child were much easier than to remember a single blossom amongst dozens or hundreds of different varieties. It were like a school teacher trying to remember the exact appearance and dress of each of her numerous pupils, to recall, later, how a certain flower looked during a certain season.

Therefore, why not photograph the flower, even as we would photograph our children?—and I am sure that most of us look on our flowers as at least fairy children. Why not make perpetual their charms, to pay us further for our work and care of them? Why not make it possible to show an equally enthusiastic flower-growing friend or neighbor the quality of our blossoms, instead of merely trying to describe them, a proceeding that is ever difficult? Why not store up a world of summer cheer in pictures of summer and her fair flowers, to fill many an otherwise dreary winter evening with pleasure in reviewing them? Why not combine the camera hobby, at least as far as it applies, with that of flower growing?

And here I might add a suggestion to the commercial grower, for there may be often profit where there is pleasure. I know from my own experiences in buying flowers from catalogues, that those pictured appealed a great deal more to me than those simply described, though I shall admit that one could not in reason illustrate each variety of the many flowers now on the market. Why not have copies of photographs made of several good or new varieties not pictured in the price list, and enclose one now and then in letters to prospective customers? For a picture ever tells its story better than a wordy description. And I am sure that the recipient of such a photograph would value it, even if that particular flower was not purchased, and thus a feeling of friendliness would be built up between seller and buyer, and friendliness in business is a great factor in governing sales.

Gladiolus varieties *Alton*, *Azalea* and *Crinkles* photographed by the author on ordinary Eastman film without color filter.

Granting, then, that picturizing our flowers were a good thing, what type of camera shall we use? There are several kinds that are well adapted to this class of photography, and others that can be used to good advantage. Personally, I use a revolving-back Auto Graflex, 3¼ x 4¼, fitted with a B. & L. Tessar Ic f4.5 lens and long bellows extension, and think it the best ever; but any reflex camera, or camera with ground glass back for focusing, with a long bellows extension, which enables one to get "close up" to the subject, will give fine results—the lens need not be an expensive one either. The reflex type and that with the ground glass focusing back allow for perfect composition of the picture, as well as eliminating the usual bogey of close up pictures—out of focus. And even the less expensive kodaks and cameras, fitted with a portrait attachment, give very good results, though one is not able to work so close to the subject to be portrayed, thus giving a smaller image by reason of the limitations of this appliance. With large flowers, an entire plant, or a large vase of flowers, the portrait attachment will do the work; but to picture a single Gladiolus bloom, or a single Rose, showing each line and vein and color gradation, a long-bellows camera is necessary, or the picture taken with the portrait attachment must be enlarged, a proceeding not very desirable, to my notion, on account of the likelihood of getting the flowers out of due proportions. For use afield, when I do not care to take my heavy Graflex along, I use a Premo No. 12 with portrait attachment and color filters, the filters in the form of gelatin film, cut so as to fit inside the portrait attachment, which gives fine results within the limits of the attachment.

Further, for the best results, a color filter suited to the subject to be portrayed should be used; and for the very best, a panchromatic (sensitive to all colors) plate should be used in addition to the filter. This is advisable, if the very best results are desired, on account of the ordinary film and plate being insensitive, or nearly so, to certain colors, notably, yellow and red, which photograph almost black, while blue is registered almost white or entirely so. However, the panchromatic plate and the filter are not absolutely necessary to get good pictures, they merely do much better work than without them; for fine pictures may be made with the common roll film and film pack.

And the procedure is easily mastered that makes for successful flower pictures. One needs but to buy a Burroughs "Wellcome" Exposure Record, learn the range of lighting in the room in which the exposures are made, so that, once finding the factor best suited to one's workroom, all subsequent exposures may be easily figured out. A room with a southern exposure, I think, is best, the subject being placed about three feet from windows, in a room of two or more windows, nearer, if only one window or poor light, care being taken not to let direct sunlight fall upon either flower or background, which should be white in most cases, and, for best results, placed two or more feet back of the subject. The exposure record, which gives the correct exposures under varying conditions of season, lighting, and film, is worth its weight in gold to all that desire to make successful photographs of any nature. The price will be saved on the first two or three rolls of film or boxes of plates.

Of course, flower pictures, for the most satisfactory results should be "time" exposures, and the indoor exposures cannot be made in any other way. In the case of a vase of flowers, or a plant, with individual blossoms at different distances from the lens, focus should be made on the most distant flower desired to be clearly portrayed, and a stop of f22 or f45 (U. S. 64 or 128) used to bring into focus the flowers nearer the lens by reason of the small stop used. Care must be taken not to move or jar either camera or flower while the shutter is open, thus avoiding blur of picture. I have found that the hours from ten o'clock morning to two o'clock afternoon, with bright or hazy sun, to be the best for this work; but pictures may be made in almost any light, only taking more care and carrying a greater chance for failure.

By fastening finished prints in an album with art corners, and making a note on the black sheet of the album with white ink or pencil of such points as color or habit or peculiarities of the variety, a lasting record is made. For even more artistic results, the prints may be colored in oil or water-color, though, obviously, this will take greater artistic skill than the average person possesses. But, colored or not, the likenesses of the flowers we have worked so hard to bring to perfection will well repay us for the additional time spent in their composition; and many an otherwise dull hour of winter will be made brighter by their presence, when memory steals a backward glance into the days of warmth and sunshine and growing things.

The Passing of The Barberry Bush.

The Barberry bush—the poor man's bush.
Its yellow blossoms hang.
—*Caroline Gilman.*

A close observer of nature, accustomed to the cheerful dashes of color once furnished during autumn and winter by the bright, red berries of the common Barberry (Berberis Vulgaris) cannot but miss this once familiar, ornamental native, and regret that necessity has demanded that it be exterminated.

The common Barberry was not only prized as a hedge plant by our forbears but it was useful for other purposes. From its berries many thrifty housewives made preserves, and from its bark a yellow dye was extracted and used by manufacturers of textiles.

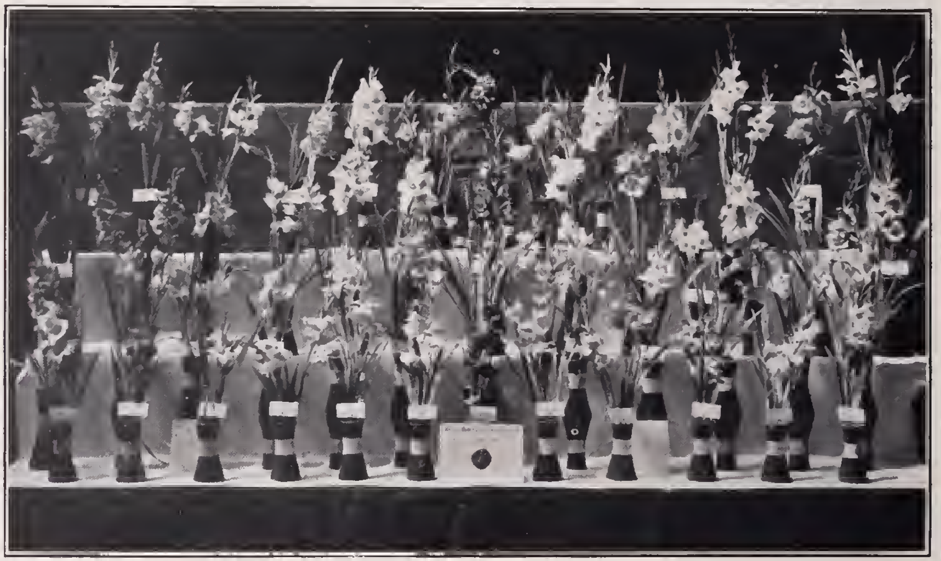
It developed, however, after study and observation by Government entomology experts that the common Barberry was harmful to our national economy, for it was the favorite harbor of the rusts, which are so destructive to our grain crops. These experts tell us that to complete the cycle of its life, from egg to moth the organism, responsible for the stem rust on wheat, rye, oats and barley, must pass a part of its life in the common Barberry bush. By demonstration the experts showed plainly that with removal of the common Barberry from near the fields in which the above mentioned grains are grown, that the damage to the grain is materially lessened, and these experts tell us that if the common Barberry is completely exterminated, that within a few years the destructive grain rusts will entirely disappear.

Because of this knowledge, widely spread by the Agricultural Department, many owners of homes and gardens have destroyed their common Barberry hedges at considerable inconvenience and financial loss. Patriotically disposed nurserymen also destroyed many thousands of these plants in their nurseries, and ceased to propagate any more of the plant. Farmers joined in the campaign for rust-free grain, and eradicated old stands of the common Barberry about their farms and woodlots, so now we may feel that our old Barberry bush is but a memory—it has practically ceased to grow.

Happily the Japanese Barberry (Berberis Thunbergii) a hardy exotic relative of the common Barberry is not considered a carrier of the destructive rust and so this beautiful, hardy, ornamental hedge plant remains for those of us who loved the old Berberis Vulgaris to plant as a reminder of the honest old bush of a former day when we did not know much about rust and the causes for its prevalence. I felt that a brief word should be said in passing about the friend of yesterday.—(BERTHA BERBERT-HAMMOND in *Park's Floral Magazine.*)

Spiræa Van Houttei.

There are many shrubby Spiræas that are worth classing as first-rate flowering shrubs, the plant under notice being one of the most attractive. Its parents are said to be S. trilobata and S. cantoniensis, the former a widely-distributed shrub in N. China, S. Siberia, and Turkestan, producing closely-arranged umbels of white flowers in June, while the latter is a Chinese and Japanese shrub better suited to the warmer climate of the Riviera than to the British Isles, for it is rarely seen at its best here. S. Van Houetti grows quite 6 feet high, forming a large, shapely bush with semi-pendent branches. The leaves are deeply notched at the margins and sometimes distinctly three-lobed, while the white flowers, each about ⅓ inch across, are borne in compact umbels each 1½ inches to 2 inches across, the flowering time being June. It blossoms with the greatest freedom and never fails. Propagated by cuttings of short shoots 3 inches or 4 inches long inserted in sandy soil in a close frame in July, it forms a nice flowering bush in the course of two seasons. It should be planted in good loamy soil and be allowed plenty of room to spread, for it is one of the kinds that is able to continue year after year without pruning. In addition to forming a useful isolated specimen it is excellent for groups.—*Gardening Illustrated* (English.)



The above photograph illustrates a good way of staging Gladioli. It was sent to us by our good friend Geo. Churcher of England, and shows the award card of the Royal Horticultural Society, in the center. We would call special attention to the terraced arrangement of the benches for showing. There are two rows apparently of vases on the first terrace at ordinary table height and only a single row on the second and third terrace, each terrace apparently about fifteen inches high.

To Gladiolus growers who are accustomed to showing on flat top tables this will convey a suggestion which ought to be appreciated.

Laurel Philology.

In ancient days, the Greeks made use of wreaths to reward heroes, poets and victors in the Pythian games. These wreaths were usually made from the laurel tree of Southern Europe, known botanically as *Laurus nobilis*. In the course of time, such wreaths came to be used to distinguish the successful in any endeavor, whence the expression "to win one's laurels." In a similar way the word laureate indicated one who had won the coveted wreath or crown. Apparently laurel was also in favor for indicating academic honors and when loaded with its berries (Latin, *baccae,*) is reputed to have given significance to the word baccalaureate if it did not, in fact, directly suggest it. The word bachelor seems to have been derived from the same general source—though it is hard to see how a bachelor is entitled to any sort of laurels. Many who are familiar with the laurel in literature, are quite unaware that it is the very same plant that yields the bay leaves, so frequently used in cooking. In the Old World, the firm, evergreen leaves of this plant, intertwined with holly, were used for Christmas decorations from ancient times. In America the bay is a very common plant, though few who see it recognize it as the laurel so highly regarded by the ancients. As a tub plant it is ever present in hotel lobbies, restaurants and courtyards, though in such places it is so clipped and trimmed, that the phrase "under the green bay tree" would apply only to the tub in which it grows.—*American Botanist.*

The Springtime Call.

There's a pulling at my feet,
  There's a tingling in my fingers,
When morn's birds carol sweet,
  When the evening sunlight lingers.

The air is soft outside,
  Gay sunbeams gently fall,
And days of beauty untried
  To the tiny green things call.

And something is calling to me.
  Earth, air, and budding twig
Call irresistibly,
" Come out, come out, and dig."
—*Mary Graham.*

From lack of space much valuable matter is necessarily held over until the April issue.

The Fern.

Crested Pterises.

Many of the crested and tasselled varieties of Pteris are still among the most popular for decoration. Of Pterises we have such a number of varied forms that it would seem almost impossible to find another quite distinct variety. One which will be sure to find general favour is Pteris cretica Wimsetti. The distinctive character of P. c. Wimsetti is that, in addition to the terminal crest, each pinnule is broad toward the base and cut down into irregular segments, these in some instances being again lightly crested. These and the terminal crests being very light, the fronds stand erect. Like all of the cretica type, it is of free growth, forming a most elegant plant for decoration, and will be sure to become popular. Of other crested forms of cretica, nobilis is one of the most distinct. The fronds grow quite erect and are broadly crested. Even from the first tiny fronds of seedlings it is easily identified by the broad crests. There is a variegated form of somewhat similar habit. The ordinary form of cretica cristata is also very popular. There are several slight variations of this, that with the broadest pinnæ being the most useful. All the crested forms of P. cretica differ from those of P. serrulata in having broad flat crests instead of the finely-cut, dense tufted tassels so often seen in P. serrulata. There are now several distinct varieties of P. tremula, Smithiana being the most densely crested; it makes a beautiful plant, but, owing to the continual growth of the multifid fronds, they are very tender and brittle, which has prevented this pretty Fern becoming so popular as was anticipated when it was first distributed. P. tremula elegans is another pretty variety. Instead of the erect tufted growth of the former this has drooping fronds, the pinnæ being much contracted, each terminated by a light crest, the fronds terminating in a broader branching tassel.

Almost all the crested Ferns may be raised from spores, and although occasionally a good deal of variation will be found, yet, as a rule, they come fairly true. As most varieties deteriorate with age, it is advisable to grow others for succession. It is a mistake to suppose that repotting should be confined to any season of the year. Young plants may be potted at any time after the pots are well filled with roots. I do not recommend overpotting, but Ferns—more especially the free-growing Pterises—are often kept in too small pots and starved. Where it is necessary to limit the size of pots, liquid-manure or any of the artificial fertilizers may be used frequently, but not too strong. This will materially increase the size of the fronds, and favour the further development of the multifid growths. A good rich loamy compost will be found to suit all the free-growing Pterises better than peat, and plenty of daylight is quite as essential to Ferns as it is to flowering plants. —"A." in *Gardening Illustrated.* (English.)

Fern Growing Suggestion.

"A very common mistake in growing Ferns or any other plant," says Mr. Edgar Tubby one of the boticulturists at the Colorado Agricultural College, "is to paint the pots or to plant in tubs or cans, thereby making it impossible for the roots to get air, which is absolutely necessary. It will be noticed that clay pots are very porous and that the majority of roots will find their way to the sides in search of air, which they cannot get if the pots are painted, or if planted in tubs or cans. In the case of the latter, the roots will find their way to the top of the soil, the result being that the first inch or two is all that the plant has to sustain it and the remainder of the soil becomes sour; the plant makes weak and deformed growth, the leaves soon turn yellow and die."

Some people seem to be under the impression that Ferns should be treated as semi-aquatic. This is entirely wrong. If one is observant enough it will be noticed that the plant is making the best and strongest growth when the soil is fairly dry, and if taken and knocked very gently from the pot without shaking off the soil, the tips of the roots will be very noticeable and will have a healthy green appearance, which is an indication of good treatment. Do not let them be subject to any cold drafts or direct sunlight.

The Fern Frond.

Although popularly the foliage of a Fern is regarded as consisting of leaves, like that of plants generally, there are several fundamental differences between a frond and a leaf. As regards their functions, that of the leaf proper is nutritive. By the agency of the leaf the raw materials of the food of plants are combined to form the actual food-stuffs, carbohydrates and proteins. In this function the Fern frond is equally active, and to it we owe the main portion of our coal supply, which consists almost entirely of the carbon absorbed and utilized by the Ferns and their allies of the coal or carboniferous age. The Fern frond, however, performs another function, of which leaves are only capable indirectly in their modified form of flowers, viz: reproduction by the bearing of spores upon their under-surfaces or upon specialized parts exclusively devoted to such functions. Examples can be seen in the royal Fern. Osmunda regalis, Blechnum spicant, the Moonwort (Botrychium lunaria), and the Adder's Tongue (Ophioglossum vulgatum), while the other native species bear their spores in dots or lines, in various ways which determine their genera, upon their under-sides. A number of exotic species, and many of our varietal forms, also bear bulbils or embryo plants upon their fronds or frond stalks, but this faculty can hardly be claimed as purely characteristic, as leaves proper sometimes do the same, or at any rate are capable of doing so when some damage interferes with their normal cellular development. The Begonia leaf, for instance, if cut across, develops bulbils on the severed edges, and many bulbous plants, like Hyacinths and Lilies, are capable of being propagated in a similar way. This, however, is very different from the production of spores upon the Fern frond, for no true leaf proper produces spores. Another peculiarity of the Fern frond is its mode of growth and development. If we open the leaf-bud, say, of a Horse Chestnut, we find within the outer protective husk the entire cluster of foliage beautifully packed, only waiting to be liberated to expand and grow to full size. In some bulbs we may note the same thing if we cut them through the centre. The Fern frond, on the other hand, develops entirely from the point or points, and commences as a tiny knob. This knob, as it lengthens its stalk and rises into the air, shows a growing tip, and this tip divides again and again, according to its eventual simple or decomposite form, forming a mass, coiled at first tightly inwards, crozier fashion. Then as the points become more and more developed and the stalk lengthens, the coil gradually loosens, and by this time we can probably see that the frond is there in detail. The apical or top growth continuing, we may see the originally tiny knob expand on the same continuous lines into a frond of many feet in length and width, and with thousands of fine divisions, according to the species or variety concerned. This kind of growth is termed circinate, and is, with very few exceptions, peculiar to all Ferns, not being, we believe, seen at all in flowering plants. The spore is sometimes looked upon as the equivalent of a seed, but it is only so by virtue of its forming the means of reproduction by wide dissemination, as do the seeds of flowering plants. In itself it is not a seed, but merely a detached germ, capable of producing what to all intents and purposes is a seed. It is a general rule in nature, though with some exceptions, that offspring cannot be produced without previous fertilization of the primary germ. In flowers we know that this is done by various agencies—bees and other insects, and in many cases by the wind, these carrying the fertilizing material from one plant to the other. In Ferns the same rule applies, and we therefore find that the spore, when it falls onto congenial soil and is not disturbed, does not, as would a fertilized seed, at once project a root and throw up leaves, but merely protrudes a tiny green cell, which multiplies itself and grows into a small green heart-shaped scale, about the size of a herring scale. This adheres by means of minute rootlets to the soil, and in time produces on its under surface what are practically male and female flowers, the latter carrying several embryo plants embedded in the scale at their base. Fertilization then takes place through the medium of the dew-like moisture collected below the scale, and as a result we next see a young Fern, usually only one, but sometimes several, rising from the indentation of the heart-shaped scale, and a new generation is thus started. Toward the end of the last century the writer was fortunate enough to make the discovery that in some rare cases the Fern frond was capable of producing this heart-shaped scale direct, without the agency of the shed spore, and it was also found that it originated in some cases by extension of the growing tips of the subdivisions. These phenomena were called respectively soral apospory and apical apospory, both involving a considerable shortening of the normal cycle of Fern life. Here, again, the Fern frond has proved itself to be fundamentally different from the leaf proper in some of its functions and capabilities—Charles T. Druery, V. M. H., F. L. S., *Gardeners' Chronicle* (English.)

Sowing Fern Spores.

If spores are sown during the autumn a good supply of seedlings for early spring work is ensured. Athough Fern spores may be sown at any season and good results obtained, it is from those sown either early in the spring or during the autumn that success is best obtained. It is during the summer and autumn that spores should be collected, for those matured during bright, sunny weather invariably prove more prolific than those produced during the dull, damp winter months. In preparing the pots for the spores the chief thing is to get some good yellow loam, which should be quite free from worms and other insects, also from seeds of any weeds. Five-inch pots are the best size to use. They may be filled firmly to within about an inch of the rims. No drainage is necessary; in fact, it is better not to use any, as the most important point is to keep a regular moisture. Filling the pots with loam and standing in saucers of water will ensure this. After the pots are filled they should be well soaked, and then surfaced over with powdered charcoal and crock-dust.

After the surface has been damped the

spores may be sown. If the spores have been saved with care the slightest dusting over will ensure a good crop, as, when sown too thickly, they choke each other. If a number of sorts is to be sown at the same time, the pots for each should be removed from the others to avoid the spores spreading. After the spores are sown, the pots may be placed in a shady position and covered with glass. Although the direct rays of the sun must be avoided, light is essential. Failure often occurs through keeping the pots in a dark, heavily-shaded position. The glasses should be removed and the condensed moisture wiped off before the globules have got large enough to drop off on to the surface of the pots. No surface watering should be given after the spores are sown, but the saucers may be filled up from time to time as they require it. It is not necessary to keep them constantly full; in fact, it is better not to do so, or the soil may become too wet. The soil must never be allowed to get quite dry. As soon as the pots are well covered with the young seedlings they may be taken off in small patches and pricked off into pots or boxes which have been prepared with a surfacing of more suitable soil for the young seedlings to root into. These will require dividing again about the time the first tiny fronds appear.—*Gardening Illustrated* (English.)

St. Thomas Horticultural Society.

Unfortunately it was found necessary through changes in constitutional provisions to hold the annual meeting of the Horticultural Society on a Monday night, when a number of other important meetings required the attendance of members interested in civic progress. The small group present, however, made up in enthusiasm and interest for their lack in numbers.

The meeting was opened by an interesting talk, illustrated by stereopticon slides on "Perennial Borders," loaned by the Ontario Horticultural Society. Bits of information and advice from connoisseurs scattered through the audience concerning the various plants shown, supplemented the remarks of Dr. Bennett, and made the lecture a most profitable and interesting one.

Following the lecture, Mayor Brinkman made his first official speech of the year. The mayor strongly endorsed the work of the society, of which he has been an active member for many years. "It is a society in which every citizen of St. Thomas should hold membership," he said. "The Horticultural Society has been instrumental in changing the name of the city from the Calamity City to the City Beautiful. If you want to have a beautiful city, then get into the Horticultural Society and boost it. If you get into civic societies and make them go, the city cannot help but go forward," he said, pledging himself to assist the society in any way that was in his power.

The annual report of the secretary-treasurer was followed by that of the president Dr. F. E. Bennett, who gave an interesting resume of the year's work. He stated that receipts for the year had been approximately $11,600, an increase over those of last year of about $3,600. The membership of the society has also been increased by about 1,100, that of the present year being over twenty-one hundred, making the society the largest of its kind, not only in Canada, but in America. Dr. Bennett pointed out that these members had been recruited from far and near, interested florists and horticulturists or old St. Thomasites having sent in their fees from California, Alabama, New York, Chicago, Montana, New Brunswick, Toronto, London, Regina, Winnipeg and even from Texas.

Dr. Bennett pointed out how the society was spreading the fame of the city in this manner. Magazines all over the continent have written up the work of the society and the society's own booklets have been distributed at many conventions in Canada and in the United States.

Speaking of the splendid success of the society in carrying off two of the most coveted prizes at the great American Gladiolus Exhibit in Detroit this summer, Dr. Bennett told how many floral magazines had asked for accounts of the work of the society and how its fame had spread through the continent, with the result that the most exclusive growers were now tumbling over themselves to offer rates to St. Thomas, where rates were unheard of before.

Speaking of the work done by the Horticultural Society in the city during the past year, Dr. Bennett stated that the premiums put within the reach of the members were of a high quality that was altogether unobtainable in many places and in most where available, they were dearer than here. The list of Gladioli presented to members last year was the finest obtainable in Canada. St. Thomas *Times-Journal.*

Farmers' Week at Cornell.

Farmers' Week opened with a rush at the New York State College of Agriculture at Cornell University on Monday, February 9th, and all the week there was a constant attendance of interested people at the greenhouses inspecting the floral displays and listening to lectures presented on floricultural subjects. The greenhouses were filled with many attractive foliage and flowering plants, but the cinerarias, primulas of all kinds and Dutch bulb stock were especially fine. The Sweet Pea house, in spite of the cloudy weather, offered a wonderful display of bloom, and the many new varieties under test offered an instructive exhibit.

A fine exhibit of floral decorations was prepared by the floricultural students the first two days of the week. The short-course students in floriculture displayed their work on Monday, and the regular students on Tuesday. Mr. E. A Slattery, of W. J. Palmer & Son, Buffalo, N. Y., and Professor E. A. White supervised the work. The bouquets made up were of many kinds and descriptions. Bride's and bridesmaid's bouquets of Roses, Sweet Peas and Maidenhair fern were to be seen; also corsage and tiny colonial bouquets arranged along one side of the laboratory which was tastefully decorated with Southern Smilax, Hemlock and Genistas.

On the center tables were a large number of plant baskets filled with Dracaenas, Primulas, Tulips, Hyacinths, Narcissi, Ericas, Ferns and many other foliage and flowering plants. Especially noticeable was the fine effect of Erica "President Carnot" made in a plant basket. One very fine basket consisted of a Calla Lily, Primula malacoides and Peperomia.

Upstairs there was a very interesting and instructive display of table decorations. The flowers used varied considerably. One very effective table had a center piece of Golden Spur Narcissus. Possibly the most original was a valentine table, in the center of which was a heart-shaped basket of Myosotis with scarlet Carnations thrust in at one side to represent the dart which is supposed to penetrate all hearts on Valentine's Day. Leading out from the center piece were red streamers bearing small hearts. Primula malacoides and graceful Marguerites made two very attractive tables. Other tables were artistically decorated with Sweet Peas, Carnations and Roses.

On Wednesday, Dr. L. M. Massey, of the Department of Plant Pathology, gave a very instructive lecture on plant diseases to the delegates of the New York Federation of Horticultural Societies and Floral Clubs. Professor E. A. White gave an account of the college work in the past, the work being done at present, what he hoped might be done in the future, and told the florists to feel that this is their college and that they should bring their problems here and take an active part in bringing the florists and the Department of Floriculture into closer relations. Dr. A. C. Beal told of his trip to California and of the beauty of her flowers both wild and cultivated. After seeing some very fine colored slides depicting California's floral beauty, the meeting adjourned to the Forest Home Inn where a fine luncheon was served. The following organizations were represented at the business meeting which followed the luncheon: Buffalo Florists' Club, Rochester Florists' Club, Syracuse Rose Society, Albany Florists' Club, Tarrytown Horticultural Society, New York Florists' Club, New York Horticultural Society and the New York and New Jersey Plant Growers' Association.

On Thursday, Professor David Lumsden spoke on garden Lilies and their culture. Miss T. E. Schindler gave a talk on garden Iris, Dr. A. C. Beal an illustrated talk on the Gladiolus, and Dr. Massey discussed Gladiolus diseases. In the afternoon, Dr. E. M. Mills, of the Syracuse Rose Society, gave a delightful lecture on the benefits derived from Rose growing as a recreation, followed by a talk by Miss L. A. Minns on women in floriculture.

Friday was devoted to instruction for amateurs, and the following lectures were presented in the morning: Bulbs for the home by Mr. H. A. Pratt, Palms and ferns for the home by Professor Lumsden, and Flowering Plants for the Home by Miss Minns. Friday afternoon was given up to a round table discussion.

Farmers' Week, despite weather conditions, has been a success from every point of view.

H. A. Pratt.

The Snow.

The snow so pure and white
Is part of God's design
To keep the plants all right
Till they can grow again.

—*Melvina Berbert Hammond.*

(Aged 9 years.)

Melvina's snow rhyme is especially apropos this winter. There has been plenty of snow, so the plants must be all right.

Queries and Answers Department.

"All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication."

Unsatisfactory Behavior of Bird Nest Fern.

TO THE EDITOR:—

If you will, I would like to have some advice relative to a Bird Nest Fern. I have had it in my home for about two and a half years. It seems to grow, i.e., produce leaves O. K., but they do not remain perfect but seem to develop notches in the leaves. The notches seem to rust in the leaves or possibly the leaf seems to die out in notches and thereby destroys its beauty. Couldn't it be due to sour ground? I have repotted the plant and it produces the leaves, but do not keep as they were when I originally purchased the plant. I read that lime water was good to put on soil of house plants. I assume this is to correct the soil. If this is good how can I obtain this lime water? Any advice will be appreciated.

W. A. T.

Answer:—I suggest that you examine very closely the foliage of your Fern and if the leaves are found infested with insects or the scale, cut the leaves down close to the surface of the soil. Burn the infested foliage, remove some of the top soil, replacing it with porous leaf mould if obtainable or light sandy soil, then place some tobacco dust or chipped tobacco stems over the surface of the soil. Water the plant and keep in a cool, partially shaded place until new healthy fronds come up.

The hot, dry air of the average room combined with poor drainage will cause the edges of the fronds to turn brown. If the roots have been injured by watering too freely, the plant should be repotted in fresh "woodsy" earth and the plant kept in partial shade until it recovers.

An occasional application of liquid manure or of lime water will be found beneficial to ferns. Lime water may be purchased ready to use or prepared by placing about one pint of quick lime in about one and one-half gallons of water, and after the lime has been well stirred and allowed to settle to the bottom of the vessel, using the water when the soil in the pot is quite dry. To rid the soil of earth worms, a stronger solution (say one pint to one gallon) will be found effective.

BERTHA BERBERT-HAMMOND.

Brown Tip on Gladiolus Foliage.

TO THE EDITOR:—

Is the brown tip on the leaf of Gladiolus foliage a blight, or a normal condition? If the former, will spraying correct it?

W. G. N.

Answer:—The brown tip on the foliage of the Gladioli does not necessarily mean disease. During extremely hot weather some varieties are inclined to sunburn in this way, especially during hot, dry weather following a cool, wet and cloudy spell. Brown tips which are the result of disease are usually followed by brown streaks running down the foliage, sometimes as far down as the ground. If the brown tips referred to are quite universal through your plantings or even through any particular variety it is doubtless owing to weather conditions and not to diseased corms.

Spraying with Bordeaux mixture has been recommended for this trouble, but we have never found it necessary to use anything of this kind in our garden.

MADISON COOPER.

Caterpillars Eat Gladioli.

TO THE EDITOR:—

What is the little insect that nibbles the tip of the Gladiolus spike, chewing out the end of the first flower, and will arsenate of lead kill him?

W. G. N.

Answer:—It is probable that caterpillars are responsible for the damage to the tip of Gladiolus spikes. Some years like 1917 caterpillars are very numerous and they are of all sizes and colors and they all have about the same chewing characteristics. Very little damage from this source was noted during the past two years. Arsenate of lead ought to kill anything that eats like a caterpillar.

Crooked Stems in Chicago White Gladiolus.

TO THE EDITOR:—

I have a thousand *Chicago White* just coming into flower and about half of them are bent over in the middle of the flower spike. The corms were rather red and sore looking, rusty perhaps, and I felt somewhat dubious about planting them, but got them from one of the leading growers and thought they must be all right. Is it the nature of this particular variety to lop over or is this due to some other condition?

W. G. N.

Answer:—The crooked spikes referred to are not at all common to *Chicago White*. *Chicago White*, in fact, is ordinarily extra straight and, therefore, the trouble may be caused by diseased corms or unusual weather conditions. Most any variety is likely to have crooked spikes during a very hot spell of weather following cool rainy weather. Some varieties are given to crooked spikes while others have few or none.

If diseased corms are planted and you get a good healthy sprout it should not have any bad effect on the flower spike, but we have known cases where the corms were weak although not diseased, and a weak growth may result in crooked spikes in such cases.

MADISON COOPER.

Catalogues and Price Lists.

Derby Garden Gladioli Retail list for 1920—Standard varieties and novelties, all home grown. John H. Umpleby, Lake View, N. Y.

Derby Garden Gladioli for 1920—Grown by John H. Umpleby, Lake View, N. Y. Wholesale list of a few selected varieties and seedlings.

F. A. Wetzel, Syracuse, N. Y.—Catalogue and price list of Gladioli. Some of the very best standard varieties and novelties are listed.

W. L. Crissey, R. F. D. 1, Boring, Ore.—A really artistic catalogue of Gladioli, finely illustrated and with good descriptions. Also hardy plants.

The National Bulb Farms, Inc., successors to Michigan Bulb Farms, Benton Harbor, Mich. Very complete catalogue of Gladioli with brief descriptions. Also Dahlias.

J. W. Seiler Co., Ravenna, Ohio—Retail price list for 1920. A selected list of standards and Austin varieties with good descriptions.

Brookland Gardens, S. E. Spencer, Prop., Woburn, Mass.—Retail catalogue and price list of an especially well balanced selection of Gladioli; also Irises and Hardy Phloxes.

Howard Gladiolus Gardens, Mrs. Anna Howard, Prop., Republic, Mo.—Retail list of Gladioli, Dahlias, Irises, Hardy Chrysanthemums, Phloxes and Hardy Perennials.

Flora-Croft Gladiolus Gardens, 121 Island Ave., Lansing, Mich.—1920 descriptive price list of Gladioli. The old standards and some of the best new things. Also perennials, etc.

D. W. Peckham, Middlefield, Conn.—1920 price list of Dahlias and Gladioli. An especially attractive list of Dahlias carefully classified.

Oronogo Flower Gardens, Benjamin C. Auten, Prop., Carterville, Mo.—Price lists, both wholesale and retail of Irises and miscellaneous plants.

Thos. M. Proctor, 71 South St., Wrentham, Mass. 1920 retail list of Gladioli with good descriptions. Prices by the dozen only.

Howard M. Gillet, Lebanon Springs, N. Y., 1920 retail catalogue of a very select list of Gladioli. Some unusual varieties are listed.

W. J. Tubbs, Elkhorn, Wis. Price list of Dahlias, Gladioli, Peonies, Irises, etc. A very complete retail list.

M. F. Wright & Daughter, Sturgis, Mich. Price list of Gladiolus corms with unusually good descriptions. Also color illustrations of the variety *Louise*.

C. Louis Alling, 251 Court St., West Haven, Conn. Catalogue of Dahlias; descriptions are especially good and the list a very complete one.

A. E. Kunderd, Goshen, Ind. 1920 catalogue of the Kunderd varieties. Finely illustrated and with valuable descriptive matter. Many testimonials. Hints on culture, etc.

N. A. Hallauer, Ontario, N. Y. 1920 catalogue and price list of Gladioli, Dahlias, Roses, Peonies, hardy plants and shrubs. Good descriptions and well arranged throughout. 16 pages and cover.

Forest Heights Gardens, 1815-26th Ave., North, Minneapolis, Minn.—Retail price list of Gladiolus corms, priced singly and by the dozen. A very carefully selected list.

Rosedale Nurseries, Tarrytown, N. Y. S. G. Harris, Prop., 1920 spring price list, 32 pages. An unusually well arranged and complete catalogue of trees, shrubs, plants, vines, bulbs, etc. Also fruit trees, and small fruits.

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Golden King, Kunderdi Glory, Panama, Peace, Schwaben and Mrs. Watt, three of each, postage prepaid, for $1.25. Or $1 per dozen.

All of above first size corms. Both collections for $2 prepaid. James L. Stoddard, Palmyra, N.Y.

WANTED—Planting sizes and bulblets per bushel of America, Mrs. F. King, Augusta, Glory of Holland, Mrs. F. Pendleton, Schwaben, Loveliness, Chicago White, Peace, Panama, etc., etc. State quantities to offer.
United Bulb Co., Mt. Clemens, Mich.

WE are completely sold out on all our varieties *for this season* and have not a bulb left to offer.
The Decorah Gladiolus Gardens, Decorah, Iowa.

ELMWOOD TERRACE GLADIOLI—Select list of commercial favorites and rare novelties. Special collections at attractive prices.
Mrs. M. B. Hawks,
234 South St., Bennington, Vt.

EAST HARTFORD GLADIOLUS Co., Retail business is booming. Our 1920 catalogue is out. Order early so as not to be disappointed. We have several thousand America to dispose of. E. M. Smith, Pres. & Mgr., 65 Olmsted St., East Hartford, Conn.

FEW small stock left of Halley, Mrs. Francis King, and Mrs. Fryer, etc. Send for retail list of Prince of Wales, La Luna, Kirtland, Hazel Harvey, Mary Fennell, War, Peace, Niagara, 1 each, 25c., 6 each, $1.25. E. M. Sanford, Madison, New Jersey.

"ATTENTION"—We are allotting space to grow bulbs for the 1921 trade, write us and arrange for variety and quantity to be delivered this fall, we will quote prices for next season. East Hartford Gladiolus Co., 65 Olmsted St., East Hartford, Conn., E. M. Smith, Pres. & Mgr.

BULBLETS—Crackerjack, Mrs. F. King, $1; America, Halley, $1.25; Empress of India, $2. All per qt. postpaid. Em. of India, planting stock ¼-½, $5 per 1000. Order early. Retail price list on request.
Alfred Oesterling, Butler, Pa.

MIXED Gladioli that will bloom flowers 3 to 5 inches in diameter. Stalks 3 to 5 feet high, eight years' experience. The kind florists ask for; 50c. per 15. $3 per 100. Bulblets, $1 per pint, worth double.
Geo. S. Barnes, Battle Creek, Mich.

BULBLETS.—1000 lots postpaid. Schwaben, Golden King, Wine King and Wamba, $1. Halley, Independence, America, Mrs. Francis King, Velvet King, Black Hawk and Primulinus, 50c.
Arthur C. Perrin, 1112-E. 18th St. North,
Portland, Oregon.

GLADIOLI—Only a small surplus in "made-up-collections" of 100. Every 100 contains at least 35 varieties. Each 100 includes War, Peace, Pendleton, Niagara, Mrs. King, America, Halley, Panama, Rouge Rorch, Mrs. Watt, Hulot, Ida Van, Myrtle, Princepine, Willy Wigman, Glory of Holland, Empress of India, Velvet King, May, Schwaben, Lily Lehmann, Chicago White, Meadowvale, Loveliness, Pink Perfection, Gretchen Zang, etc. Good blooming size bulbs. Extra Value. Only $5 prepaid.
Howard Gladiolus Gardens, Republic, Mo.

FOR SALE—A few hundred of mixed Gladiolus bulbs 1¼ to 2½ in. size, $2 per hundred. Also a few ¾ to 1 in., $1 per hundred. These are mostly of a variegated pink and grow very large and stocky. The above prices take them while they last.
A. Frank Smith, Box 195, Manchester, Vt.

BIG BULBS—Augusta, Intensity, $2 per hun. Blackhawk, $2.50; Fairie, $3. One inch to 1¼ inch size, Crackerjack, Columbia, Blackhawk, Independence, Jane Dieulafoy, $1.25 per 100. Also a very fine mixed.
P. A. Laeser, Sun Prairie, Wis.

LARGEST SIZE GLADIOLUS BULBS—America, Augusta, Francis King, Empress of India, Glory of Holland, 50c doz.; Baron Hulot, Niagara, Peace, Lily Lehmann, 75c doz.; Panama, Pink Perfection, Schwaben, Mrs. Watt, Loveliness, Mrs. Frank Pendleton, War, $1.00 doz.
Rose Side Gardens,
Warwick, Pa.

AMERICA, Mrs. Francis King, Crackerjack, Klondyke, 50c. per doz.; Empress of India, Glory of Holland, Golden King, Panama, Peace, Baron Hulot, 75c. Kunderdi Glory, Mrs. Frank Pendleton, Schwaben, $1. Pride of Goshen, $1.50.
Flowerfarm, Fort Atkinson, Wis.

IRISES

IRIS—A fine stock of Pallida Dalmatica, P. Australis, Juniata, Lohengrin and many others. Prices attractive. Send for list.
W. J. Engle & Son,
R. D. No. 8, Dayton, Ohio.

MISCELLANEOUS

1200 ONION SETS FOR $1, prepaid. Special size small sets running from size of large garden pea to a hazelnut. Just a little later than regular sets, but lots cheaper. Way ahead of seed for growing early green onions or dry matured onions for fall and winter. Easy to plant and easy to care for. Just sow them in trench like peas. To sum up, satisfaction or money back—1200 sets for $1, prepaid.
J. D. Long, The Decidedly Different Seed Man,
Boulder, Colorado.

ROSE ACRE FARM IRIS—

Intermediate Iris:—Gerda, Halfdan, Helge, Ingeborg Walhalla.

Iris Pumila Hybrids:—Floribunda, Scheekuppe.

New German Iris:—Berchata, Fro, Gajus, King, Lohengrin, Mithras, Nibelunger, Princess Victoria Louise, Rhein Nixe, Pallida Dalmatica, Dr. Bernica, Maori King, Mme. Chereau, Spectabilis, Surprise. Thirty other named varieties not labeled.

Any 6 of the above named varieties and 6 other named varieties not labeled, for $1, or will exchange for named Gladiolus.
Frank Wentink, Rose Acre Farm,
Salisbury Mills, N. Y.

LONG'S IMPROVED GOLDEN BANTAM SWEET CORN. Colorado strain selected for size as well as other desirable qualities. Many ears have 10 to 12 rows. Beautiful, vital seed. Pkt. 10c, lb. 30c, prepaid. Bag weighed in. J. D. Long, the Decidedly Different Seedsman, Boulder, Colorado.

YOUR order must be received during March to get this special perennial collection: My selection of 15 very choice perennials, at least eight varieties, prepaid for $1. Paul L. Ward, Plantsman, Hillsdale, Mich.

BURPEE'S BRITTLE WAX BEANS—True strain, grown in sunny Colorado from introducer's stock. Extra early round, yellow podded wax bean, almost as brittle as ice at all stages of growth. My seed was grown at an altitude of 6700 feet here in the Rocky Mountains and will make good wherever beans can be grown. Every bean matured to perfection, bright and glistening as a new silver dollar. Special price, large pkt., 10c.; pound, 35c.; 3 lbs. for $1, prepaid. Beyond 4th zone the mailing envelope or bag is included in weight of one or three pound lots. Mention THE FLOWER GROWER and I'll include free with pound or larger orders a liberal trial packet of my wonderful Colorado onion. Long's Improved Mountain Danvers—extra early, golden yellow, almost as round and solid as a base ball. Price for this onion: Pkt., 10c. oz., 35c.; ¼th lb. $1, prepaid. No more catalogues to spare this season but glad to put you on the preferred list now for next year. J. D. Long, The Decidedly Different Seed Man, Boulder, Colorado.

LABELS—Patent, paper, trees, shrub or rose label. Colors: white, green, blue and salmon. Plain or printed. A cure for those afflicted with label troubles. Samples. Ohio Nursery Co., Elyria, Ohio.

TIGRIDIAS—Fine, healthy home grown bulbs, 35c. per doz.; $2.50 per hundred. Also a limited number Ismene Calathina, White Peruvian Lily, extra large blooming bulbs 20c. each, 3 for 50c.
Jos. A. Eibel, P. O. Box 268.
Lancaster, Pa.

FOR SALE—MIXED GLADIOLUS BULBS, 40c. doz. Hardy Ferns, Maiden Hair, Interrupted, Christmas, Cinnamon and Silvery Spleen Wort, 10c each. No order for less than 40c accepted. All sent postpaid.
Addison E. Riggs, Hubbard, Ohio, R. D. No. 2.

BLUE ACHIMENES—Sound, large bulbs, well matured. Price 75 cents to $1 per dozen, prepaid, according to size; or will exchange for named Gladioli, Cannas, Dahlias and plants, both hardy and green house. Mrs. T. L. Teague, Fayette, Mississippi.

GROW YOUR OWN SUGAR.—Finest Idaho grown sugar beet seed you ever saw. Oz. 10c, ¼ lb. 25c. prepaid. Complete instructions for growing the beets and making syrup and sugar, free. Mention FLOWER GROWER. J. D. Long, Boulder, Colorado.

LANDSCAPE GARDENING—A practical course by mail. Colored illustrations. Beautify Home Grounds. Endorsed by leading Nurserymen and Florists. Write for Prospectus. American Landscape School, 2 N, Newark, N. Y.

GET ACQUAINTED OFFER.—For 50c we will send postpaid the following: 1 Blue Iris, 5 largest size Gladiolus bulbs—America, Peace, Baron Hulot, Schwaben, Empress of India; 5 packets best early vegetable seeds—Radish, Sweet Corn, Cucumber, Lettuce, Tomato. Packet of 50 varieties of flower seeds, and "Your Flower Garden" a booklet on making fountains, hot beds, arranging, culture and growing of flowers and bulbs.
Rose Side Gardens,
Warwick, Pa.

SOME GOOD SHRUBS for spring delivery—Spirea Prunifolia, fl. pl., 3 to 4 ft., $3 per 10. Spirea Collosa Alba, dwarf white, ever blooming, $3.50 per 10. Coral Berry or Indian Currant, 2 to 3 ft., $3.50 per 10. Ulmaria Filapendula, fine border plant, $1.50 per dozen. Mrs. Wm. Crawford, La Porte, Ind.

PEONY ROOTS

Will accept wholesale and retail orders, for next Fall delivery, until May first at same prices as in years past.

J. F. MUNSELL,
ASHTABULA, - - - - OHIO

Popular GLADIOLI

We list below some popular varieties of Glads. Other fine varieties can be found in our price list which we will gladly mail on request.

America, lavender pink	Ea. $ .05	Doz. $ .50
Baron Hulot, violet purple	.05	.50
Blue Jay, pale blue mottled purple and lavender	.20	2.00
Evaline, violet underlaid terra cotta	.05	.50
Fire King, fiery scarlet	.15	1.50
Mrs. F. Pendleton, pink, crim. blotch	.10	1.00
Mrs. Francis King, flame pink	.05	.50
Mrs. Watt, solid wine red	.15	1.60
Peace, strong white	.10	1.00
Princepine, red, white throat	.10	1.00

Six at dozen rate. Prices include postage.

FOREST HEIGHTS GARDENS,
1815 26th Ave. No. **Minneapolis, Minn.**

THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

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FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
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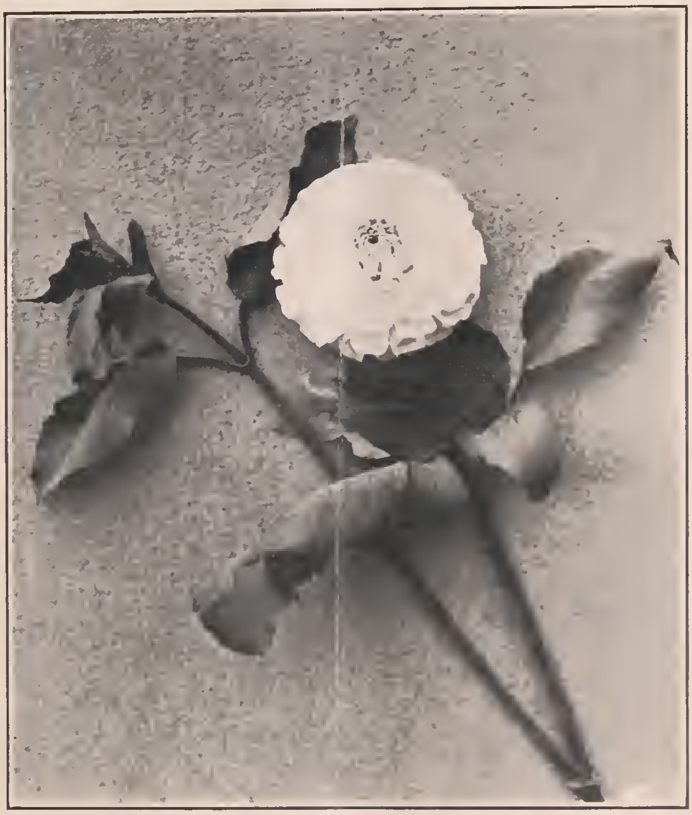
A PLEA FOR THE HARDY POPPY.

[*Written expressly for The Flower Grower.*]

BY DR. J. H. NEELEY.

THE VOICES of the floral John the Baptists have at last been heard. The Plea For Hardy Plants, is being heeded, and we are no longer content to have merely a hardy border. The foundation walls, the walks, the driveways and even the garden areas themselves, are calling for more and more of the perennials in bulbs, herbs and shrubs. We are awake to their separate and individual beauties and turn where we will, we meet those able to converse enthusiastically regarding their garden plantings and its succession of blooms.

They know, in their separate varieties, the Crocus, the Squill, the Daffodil, the Tulip, the Iris, the Peony and the Rose. They know the flowering shrubs, and more; their season of bloom, their colors of leaf and flower and their harmonious arrangement and planting. Many school and play grounds are becoming areas of beauty and we are slowly learning that to know and name the flowers at our feet, is as much an education, as to know the stars and to describe their courses. We are trying to close up the floral gaps, so that from the beginning of the blooming season, to its end, we may have an unbroken succession of flowers. Landscape artists and catalogue makers are giving the matter much thought, and many of the plans advanced seem to be almost harmoniously perfect.



DAHLIA—*W. W. RAWSON.*

(For description see page 59.)

As I study them and note the emphasis placed on this and that variety of flower, I cannot but wonder why so little attention is given to the "Oriental Poppy." Most people who know it, seem to have merely a picture of the flaming brick red flower of the Type, never having seen the newer and finer sorts. Why so few varieties are listed by our dealers is also a puzzle to me and often when I try to find some special variety, few, if any, are interested enough to help me to it. Press the question, "Why?" and I am told that their colors are harsh, that among other and more delicate shades, they fairly scream. Some even accuse them of quarreling among themselves, but can one not say the same of the Darwin Tulips? and who would be willing to do without them? Coming into bloom at the time the latter are passing, they make a royal leader for that triple succession, the Iris, the Peony and the Rose. With me, the variety *Goliath* is the first to bloom. Of the choicer sorts, *Beauty of Livermere*, a deep oxblood red, is the earliest, followed closely by *Proserpine*, a lively cerise scarlet, flowers very large, with splendid stems; *Masterpiece*, a monster flower and the best in salmon pink, *Wurtembergia*, cerise scarlet, the queen of them all and very rare; *Mrs. Perry*, orange apricot; *Perry's White*, pure white with large crimson blotch; *Silver Queen*, silvery white, without blotch; *Rose Queen*, a delicate rose pink; *Queen Alexandra*, rosy salmon; *Mahony*, chocolate brown, the darkest of all; *Psyche*, light old rose; *Mrs. Jno. Hawkins*, soft rose; *Princess Ena*, light pink; *Princess Victoria Louise*, delicate pink; *Grand Mogul*, deep red, and last but by no means the least, is *Tribly*, tall of stem, monster flower, of a deep dark scarlet color. Blooming after the other varieties are faded and gone, it can receive no pollen from them and being apparently self-sterile, it forms no seeds.

After the plants are done blooming, it is my invariable custom to go over the beds and remove all seed pods, except such as I may have hand pollenated and desire for seed. This relieves the roots from a considerable drain and gives the beds a neater appearance. The foliage soon dies down and in a few weeks can be cut away entirely. The roots are then at rest.

Like the Iris, the Poppy seems to profit from a thorough baking during the months of August and early September, so I strongly oppose planting among them, any annual, requiring a stirring of the soil, or more than an ordinary amount of water. Let them strictly alone at this time. With the coming of the early fall rains, the roots quickly show signs of growth and can then be transplanted with perfect safety. Old plants may be divided, leaving one or more eyes to a root as with the Peony, or the whole plant may be cut into short lengths and put in moist sand, where eyes readily form. These new plants may later be put into their permanent beds. The broken roots, where the old plants were disturbed, usually form eyes and if left until the next fall make splendid plants.

No plant is easier to manage than the Poppy at this time, but failure most often follows any attempt to move them during their growing season. To protect the new growth, cover before hard freezing with three or four inches of leaves. This covering needs not be lifted in the spring for the leaves quickly push through it and drooping over, cover it nicely. It is thus a protection, a mulch and in the end, a fertilizer. I have read that if one would rouse the plants from their sleep, by giving shade and abundant moisture in late August, they would bloom in the fall but I never took the information seriously. However, last season was very hot and dry here, followed in early September by copious rainfall; the Poppy roots sprang into quick growth, the leaves pushed up and up and lo! plump, big flower buds made their appearance. I began to chuckle how I was going to surprise my friends, when a light frost checked their growth, another made them groggy and a third put them down and out. No more fall blooming for me!

To grow Poppy plants from seed, sow as early in the spring as the ground can be safely worked, carefully staking the rows. The young plants die down after making their spring growth and without the stakes to guide, their location might be lost. Lift the seedlings in the early fall, plant in their permanent beds, cover with a light mulch to prevent heaving and let alone. Most of them will bloom the following spring. The type seems unusually well fixed and no matter how careful you may be in selecting your seed parent, the seedlings most always revert to the original type. When a break in color is made, the stock can only be increased by division from this individual root. By collecting and drying the pollen I hope to be able to preserve it long enough to fertilize varieties blooming at different seasons and thus realize results desired but not yet attained.

For landscape effect the Oriental Poppy is hardly excelled but as a cut flower it is usually disappointing. Sometimes the blooms will hold in splendid condition for several days and then again they will droop within a few hours and no amount of coaxing can bring them up. I have had best results from bending the stems into a vessel of water and while submerged, cut, thus preventing air rushing in and closing the intercellular spaces in the severed stem ends. Some claim success from searing the stem ends by dipping for a few seconds in boiling water but all agree that with its thick milky sap it is one flower not benefited by daily fresh cutting the stem end.

To all who have been told that the Oriental Poppy is hard to grow I would say—forget it! Get dormant plants in the early fall, named varieties as truly as you would in the Peony. If they reach you looking like a bundle of dry sticks, don't think them dead and throw them away for they are likely all right. I have imported the naked roots clear from Holland and not lost a plant. Give full sunshine and good drainage and a light mulch for winter protection. Keep fresh manure from them, as sacredly as you would from your choicest Peonies. Don't coddle them, don't dig about them when growing, let them strictly alone to grow or rest as they choose. If you will do this I fearlessly make the assertion that no matter what other flowers your garden may contain, at their season of blooming, and in spite of their seeming boldness, your beds of Oriental Poppies will draw the crowd and prove the Merry-Go-Round of your Floral Show.

Anaesthetics for Tree Transplanting.

According to a London dispatch a scientist from India has not only suggested the use of anaesthetics for the treatment of trees to enable them to withstand the shock of transplanting, but this gentleman produces the photographs of large trees which have been successfully transplanted under this treatment. It is unfortunate that no definite information was given as to what anaesthetics were used or how they are applied. The mere fact of successful application is interesting, but it does not get us anywhere so far as practical application is concerned.

A subscriber wants to know how to raise Cyclamen from seed without the aid of a greenhouse. Can any of our readers give us either brief or complete information on this subject? THE FLOWER GROWER is especially anxious to print facts and information about flowering plants which do not require greenhouse facilities.

Sanity in Flower Growing.

BY MRS. LESTER BELLAMY.

[*Written expressly for The Flower Grower.*]

In reading the various magazines it is surprising to see the different opinions in regard to certain things. One man says that after raising various flowers he settles down on one variety, and discards all others. What! Turn a cold shoulder to all the loves of a lifetime. Just as well turn down all but one human friend. As for me, after having possessed a flower no inducement can tear it away. I want it, and its uncles and its cousins and its aunts.

Another suggests that we grow flowers and give them away. Just as well grow wheat and give it away. To him who would eat without paying the price, we say: "Go to the ant thou sluggard, consider her ways and be wise." To her who would have flowers, I'd say: Get out and hoe, pay the price. There is too much of some toiling and others reaping the benefit of their toil. I know of women who spend large sums of money for clothes, but expect to get their flowers, bulbs, plants and shrubs from their friends free of cost. When I run across one of these, about all the ugliness in me comes to the surface. The more the beggar wheedles the more indignant I become. Some time I am wondering if there won't be an explosion inside of my body, and the garden strewn with pieces of my anatomy too small to gather up. In this case soft words do not turn away wrath, they add to it.

Don't I ever give away plants? Yes, to some poor person who would buy them if she could. Do I ever give away flowers? Yes, to some worthy cause. Do I give to the ladies who sit on verandas and rock? Not often. That would be cheapening the flowers and they deserve a better fate than that. People are welcome to come to my garden and see the flowers and realize that they, too, might have some if they were not too indolent to grow them.

Another writer says we should have our flowers all labelled. I'll have to admit that of my hundred varieties of the Peony, I've forgotten the given names of some. So, if a new one arrived, I'd have to say *Miss Alice Carey* or *Martha Bulloch* (as the case might be) allow me to introduce you to the Peony sisters.

Of the 35 Irises some look so much alike that should I address one by the wrong name she might be very indignant, feeling herself much superior to the one mentioned. She might even become contrary in revenge and not respond to my fine treatment of intense cultivation.

Still another writer says: Why trouble to label if the names are not to be remembered, as well send mixed ones to begin with. No! not as well, for some mixed collections are mixed from varieties the grower is throwing away as worthless. We need the names to catch him with in case he is cheating.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

Mountains and Flowers in California.

We have had gentle rains, I say *we* because although I have been in this delightful country only a few short weeks I am beginning to have a feeling of affiliation, not as a tourist partakes of the pleasant and unpleasant features that may lay in his pathway, but because of a growing love of a country so full of interest and charm even in its midwinter season of rest, that I feel that its joys and sorrows are in a measure becoming mine.

Gathering the flowering branches on Mt. Lowe, California.

Perhaps this homelike feeling has come to me because we have made beautiful Alhambra our headquarters, and there are friends from our Ohio home town here in our apartment home, and also resident in homes near by, and Ohio companionship and California climate form a most congenial combination.

Alhambra, eight miles east of Los Angeles and three miles from Pasadena, well connected with electric and steam cars and wonderful boulevards, is spoken of as The Gateway to the San Gabriel Valley, and my window presents a view of majestic mountains, and valley dotted with homes surrounded with orchards laden with fragrant blossoms and golden fruits.

The much needed rains have brought kaleidoscopic changes of early springtime. Less than a week ago a nearby row of Calla Lilies resembled dead plantain leaves more than anything else, today the blooms are popping open.

With the view of mountains comes the desire to gain their dizzy heights and the picture shows two daring girls flirting with death as they gather flowering branches of the Manzaneta on the side of Mt. Lowe, where a slip of the foot or loss of balance would precipitate them to the depths of the chasm nearly a mile below. To gain this height we made the nearly perpendicular ascent of the Great Incline 3000 feet long, followed by a five mile electric car ride—ever ascending on which there were 127 curves and many bridges. There were thirty people in the car, our special party numbering nine. All were exclaiming of the beauty and grandeur of the scene, but, honestly, I was glad to have a middle seat.

The mountain sides were covered with trees, mostly pine, and shrubby growths, and the Manzanetas in bloom are very attractive. This wood grows extremely crooked, and we have been told that a wealthy easterner has made a standing offer of $2000 for a perfectly straight piece measuring five feet in length. The bark is a deep mahogany color.

In the yard of "Ye Alpine Tavern" plumy-tailed gray squirrels were playing tag, and venturing near I discovered a bed of Irises seemingly as much at home as in my Ohio garden.

Upon the return of the men of our party who had made the extra and somewhat perilous climb of eleven hundred feet in order to go "over the top," we had dinner at the "Tavern," lingering a little to make the return trip at night for a view of the illumination of the valley. A little way above the top of the Great Incline we spent a brief half hour at the Mt. Lowe observatory, listening to a short lecture, and were permitted a peep at Jupiter and her four moons through the great telescope. Previous to this stop our five miles through winding slopes, around ridges and across canyons, had been made mostly with the car lighted, and unable to see outside distinctly, we fell to chatting and visiting and the younger element, boys and girls in picturesque mountain climbing costumes, made the mountain ring with college songs. After leaving the observatory all lights were off, but the stupendous cliffs and yawning chasms were plainly visible by the clearest, brightest moonlight I ever saw. Awed into silence, self forgotten and all nervousness gone, we looked upon what? We had been above the clouds many times lately, but were we above the heavens too? Picture, if you can, the myriad twinkling lights of such cities as Los Angeles, Pasadena, and more than forty additional towns.

"She's lit," came from one of the campers and the spell was broken.

Many flowers are coming into greater profusion of bloom now (mid-Feb.) especially in the more protected places, and only a few days ago discovered a veritable Garden of Eden nestled in the foothills of the Sierra Madre range. This garden was on a sloping hillside with the home in back ground overlooking it. Bounded by long rows of blazing scarlet Mallows, were enclosed various shrublike plants, large beds of velvety pansies, trellises of Sweet Peas in such multiplicity of bloom that the vines were nearly hidden. Beds of fragrant Hyacinths in various colors, Irises reflecting their swordlike leaves in small artificial lakes. There were tufts of Violas, their cool refreshing beauty a pleasing change. Long border beds of Verbenas and Petunias and—quite suddenly I came upon them—a bed of Gladioli. So close to the open iron fence were they that I reached through and touched them. Those Gladioli were about a foot in height and seemed to be growing thriftily. I was sure they had remained in the ground from last year because at the sides were

[*Continued on page 55.*]

Trunk of climbing Rose in California.

The Flower Grower

PUBLISHED MONTHLY ON THE FIRST OF THE MONTH BY
MADISON COOPER, CALCIUM, N.Y.

FOR BOTH AMATEUR AND PROFESSIONAL FLOWER GROWERS

Subscription Price:
$1.00 per year,
3 years for $2.00.

OUR MOTTO:
Special favors to none, and a square deal to all.

Canadian and Foreign
Subscription Price
$1.25 per year.

Growers are invited to contribute articles or notes over their own signatures, but the Editor reserves the right to reject anything which in his judgment is not conducive to the general welfare of the business.

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Vol. VII April, 1920 No. 4

"*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

Flower Growing and Spiritual Development.

On page 60 of this issue we read about James E. Russell and his wonderful development of refined traits of character through flower growing. As explained by Dr. Neeley, during his early years he was most interested in horses and hunting, but after the developing of his character in this connection, he graduated, might we say, from these particular interests, and took up flower growing as his chief pursuit. Dr. Neeley explains how it served to broaden and refine the character of the village blacksmith, James E. Russell.

The influence of flower growing is not only toward refinement, if undertaken in the proper way; but contact with the soil in the proper spirit, leads to a development of individuality and spirituality which are unmistakable. The great Persian Philosopher, Zoroaster, whose greatest words we print at the head of our editorial department each month, well understood this influence. People of the present day if they could only stop and ponder this subject, and if they could only understand how and why humanity is developed by labor in contact with the soil, would be more willing to give time and attention to gardening pursuits.

MADISON COOPER.

Giving Away Flowers.

The article by Mrs. Lester Bellamy on page 50, entitled "Sanity in Flower Growing," touches on a subject to which we would call special attention.

Many people, with all good intentions, grow flowers and distribute them among their friends with a lavish hand, and we are thoroughly persuaded that not more than 25% of the recipients properly appreciate the gift. Of course, any one will, in a way, appreciate flowers. Flowers show a bit of color, and are showy, and anyone is glad to carry bloom with them, and display it as occasion offers. Whether they get this as a gift, or purchase it, or grow it themselves, does not worry the average individual. In fact, those who secure the flowers without price are inclined to think they are very smart, and have acquired something valuable without paying for it. As before stated, perhaps one person out of four really appreciates a gift of this kind, and though all may profess great gratitude, it is a question whether the gratitude is genuine.

Let us not be too pessimistic or too hard-headed about this matter, but let us look the problem squarely in the face. Mrs. Bellamy has expressed our opinion as well as we could express it ourselves. By all means give flowers to the sick and to any worthy cause, but we would caution the lavish giver, and suggest that flowers have a value the same as other gifts. If one can induce one's friends to grow flowers by giving them bloom from time to time they are accomplishing a very meritorious work, but when it comes to giving flowers to the same friends year after year, if they are able to grow flowers for themselves, it is bad taste and a lack of judgment.

Think it over and if Mrs. Bellamy is wrong, and if we are wrong about this matter, tell us your opinion in THE FLOWER GROWER.

MADISON COOPER.

Subscription Prices.

We are struggling, and have been struggling for some months, to keep the subscription price of THE FLOWER GROWER at $1.00 per year. Other magazines have been advancing their prices but we have maintained ours steadily. Last month we sent out a circular letter appeal to all of our subscribers to assist us in this work, and offered special inducements for clubs of three or more new subscriptions sent in at one time. This special offer is still in effect and will not be recalled until July 1st.

We have already had a hearty response from many subscribers, but there are doubtless others who have been prevented from one cause or another in doing anything along the line suggested, and to these we would call attention to the fact that the limit of time is not far in the future, and would urge that they bestir themselves before the busy gardening season arrives. The great work which THE FLOWER GROWER is doing for flower growers deserves consideration and assistance.

Is Ambition Dead?

Your editorial under the above heading in your December 6th issue is noted with interest.

No, ambition is not dead, but it is taking a wrong direction, and the remedy is perhaps not as plain as it should be.

Your suggestion to encourage reading is one of the very best that can be made, but it is difficult to interest the rising generation in reading. They are too busy, and time is too much taken up by trying to find some new form of entertainment. If people could only be induced to read it would doubtless solve the problem to a great extent. Any man who does not read the trade literature in his own particular line is surely heading for the discard, and people find this out only when past the time when reading would do them the most good. If young people could be induced to form the reading habit early in life it would go far toward solving the problem presented in your editorial. It matters not so much what they read when young providing it is at least harmless, and so long as they form the reading habit and read regularly. If this habit is kept up until mature years, naturally reading of a more solid and substantial character is taken up and that is where the benefit is derived.

Back of all this is the question of education. In what direction does our present education tend? Does not our present educational system teach the young that if they follow a certain course of study they will be qualified to hold positions that do not require labor? Should not our institutions of education teach primarily the dignity and honor of work, just plain ordinary labor without frills? Should not the primary grades teach children that every person owes it to the world that he should earn his own living? Should not the earning of one's living by some useful pursuit be the first element of good citizenship?

It seems that there is no doubt but what the present tendency of the day is toward demoralization and disintegration. It is to be hoped that the tendency will be checked before too much damage is done.—MADISON COOPER in *Horticulture*, Boston.

American Rose Society.

REGISTRATION OF NEW ROSES.

The following Rose has been offered for registration and accepted by the Rose registration committee of the American Rose Society. Unless objections are received by the Secretary within three weeks of this publication the registration will become permanent.

NAME—*Silver Star.*

CLASS—Hybrid Wichuriana.

PARENTAGE—*Silver Moon* x *Marie Van Houtte.*

DESCRIPTION—Habit of growth, bushy, but with a climbing tendency; foliage, similar to *Silver Moon*; very vigorous, hardy and disease resistant; flower, large, semi-double, cream white with a mass of golden yellow stamens, quite fragrant; bud, pointed yellow; twenty-two petals; an ever blooming Rose with excellent lasting qualities; flowers until October.

INTRODUCER—Frederick R. M. Undritz.

Frederick R. M. Undritz, West New Brighton, S. I., N. Y., has requested permission of the Executive Committee of the American Rose Society to change the name of the variety of Rose registered by him August 23, 1917, as *Frederick R. M. Undritz* to *General John Pershing.* Inasmuch as this Rose has not yet been disseminated, the Executive committee of the American Rose Society voted to allow this change of name. Unless objections are received in the office of the Secretary of the Society within three weeks of this publication, the registration will become permanent.

General John Pershing. H. W. Dr. W. Van Fleet x Mrs. W. J. Grant (Belle Siebrecht). Climber; foliage same as Dr. W. Van Fleet; very vigorous, perfectly hardy; flower double, 4 inches in diameter, dark pink, center projecting, medium long, quite fragrant; bud pointed and firm; fifty-three petals, curved, stiff, center close; blooms profusely in June; may bloom later; lasting quality, on bush five or six days.

E. A. WHITE, Sec'y.

The Perennial Pea.

The Perennial Pea is a very useful flower, being a very persistent grower and fine as a cut flower. Some call it the Everlasting Pea.

There are two well known varieties; though the typical color is a Rose pink, there is a pearl white variety. In some cases it has been found necessary to plant both these varieties together to secure a good setting of seed.

The Perennial Pea, Lathyrus latifolius, is overshadowed in popularity by the ordinary garden Pea or Sweet Pea, but it possesses good qualities which are not found in its more showy relative. The fact that it is perfectly hardy and not at all particular as to kind of soil makes it exceptionally valuable. It is important, however, that the soil should be perfectly sweet, and a well-limed soil is an advantage. The Perennial Pea, while a climber, does not attain to great height. In a well fertilized soil it will grow to a height of five or six feet. If the blooms are kept cut it will bloom for a long period and it makes a very attractive appearance. Lacking the fragrance and variety of coloring of the Sweet Pea it will never attain the popularity of the Sweet Pea, but it is a flower which no hardy garden is complete without.

The Hardy Chrysanthemum.

[*Written expressly for The Flower Grower.*]

The hardy Chrysanthemum is destined to become the third greatest perennial. This claim would already have been universally acknowledged if dealers had tested thoroughly all the varieties that have been introduced during the past fifteen years. As the situation is today, I dare say that only one variety out of a dozen in some catalogues is worth while. The remaining other eleven are not hardy, bloom too late, are weak growers, shy bloomers, or have flowers of poor colors.

A case in point is that of one variety that has been lauded to the skies, *Lillian Doty.* This variety is hardy; but in other respects it has not much excuse for being. It blooms too late for most sections of the country, is such a rank grower that it sprawls "all over creation" and yields only a few perfect flowers. Only the terminal blossom on each stem is perfect and this one, I must admit, is really a beauty. But is such a variety worth growing? Granted that a three year plant would have a dozen stems, it would mean that you would only get a dozen blooms. In addition you must take a chance on its blooming before freezing weather, for if the Autumn weather should be exceptionally cool and cloudy, this sort would not get far enough advanced to open its flowers.

I could go on to illustrate and point out the failings of any number of varieties that clutter up quite a number of catalogues; but time and space forbid. I feel that I am qualified to make such strong statements and assertions, for the reason that I can take friendly issue with any firm in the land, in saying that no one has so systematically tested out so many varieties as I have done.

H. W. GROSCHNER.

Meadow-Sage for the Border.

There are few fall flowers for the hardy perennial border which furnish just the lovely shade of blue now so popular, the blue which is seen in the Ageratum and in some varieties of Delphinium. There is a most charming variety of Salvia or Meadow-sage growing wild, quite commonly in our section of the state, which I have utilized successfully as a hardy perennial, in my garden.

The blossom differs from the scarlet Salvia in color, only, being a delightful porcelain blue.

The plant is found growing along the upland edges of marshes or on wooded river-banks, and although it seems naturally to prefer a moist situation, it does well in the garden, blooming profusely during August and September. This pretty addition to the garden may be transplanted while in bloom if a generous amount of soil is taken with the roots, the flowers removed, and the plant kept well watered and shaded for a few days.—(MRS. WILLIAM HABERMANN in *Wisconsin Horticulture.*)

The Glad Philosopher's Musings.

Josh Billings said, "when we lose our health, then we begin to take care of it." Isn't it the truth? And just so with our plants; not until they begin to get sickly do we usually bestow much care on them. The old saying, "An ounce of prevention is worth a pound of cure," has always held good and always will; so, as the preacher says, "Let us spray."

Look here, you plant wizards. Get busy and give us a perennial Gladiolus that will not have to be taken up every fall and replanted every spring. "Why don't you produce it yourself?" say you? Well, I am not a plant wizard.

Some flowers are like some people; they can't stand prosperity. If given too rich soil, some flowers, the Nasturtium, for instance, will make a rank growth of vine and foliage, with little bloom.

Nature resents over-stimulation. Once, in conversation with an experienced horticulturist, I asked his advice about using nitrate of soda as a manure for Roses. He advised, "Go slow with that stuff and use it sparingly; it's a powerful stimulant—we call it 'plant whiskey,' as it seems to affect plants much like booze does a man." Ever since then I have been careful to use it temperately. You understand, of course, I am talking about nitrate of soda.

"I did not have time," is a common excuse with some people. Often it would be better said if expressed, "I did not *take* time," for usually the person who did not have time to perform the important task used up more time in doing some less important thing. When I was a boy I did not always have time to weed the garden or hoe the beans, but I usually had time to go in swimming or go fishing.

If you should happen to overhear one Gladiolus grower tell another that he has "just cleaned up several thousand," remember, he may not have meant dollars, he probably referred to the big job just completed of removing the old corms, dirt and roots from his bulbs.

THE GLAD PHILOSOPHER.

WAYSIDE RAMBLINGS

NOTES FROM MY GLADIOLUS GARDEN OF 1919.

More than a hundred new varieties in the spring of 1919 presaged a busy and interesting season, and so it was. Disappointment came with some kinds, and enthusiasm with others. These notes are inspired by the article by Mr. Gersdorf in THE FLOWER GROWER for Nov., 1919, and are written in the hope that others will contribute in the same vein, and we may then, perhaps, learn why stock from a certain locality will do well in Ontario, for instance, while other stocks do poorly. If we do not attain such a desirable end, we may at least help each other to buy stocks that are likely to be successful.

All the whites were of rather unsatisfactory growth. Paine's *Canada*, identical with *White Lady*, gave the best results, but only a small proportion of the bulbs bloomed. The spikes were better than *Europa*, and the greenish stamens tend to give the flower a whiter appearance.

Kunderd's varieties were most satisfactory. Some of them are fairly high in price, but most are worth what they cost, and almost all are good flowers. I liked *Altom* and *Pride of Lancaster*, very much, quite similar to each other. *Challenger* was my best red; a fine glowing color of good size and reliable doer. *Fairfield* was a light maroon red, fairly good and early, August 1st. *Purple Glory*, very dark maroon red, ruffled, tall, and a fine spike. I have a soft place in my heart for a variety that grows five feet high. *Salmon Beauty*, good, tall, salmon pink with yellow in throat. *Sirius* was better still, and of the same type. *Snow Glory*, an interesting white, with bluish and creamy greenish shadings. *Avalon*, a good ruffled pink, throwing a nice spike of ruffled flowers.

From miscellaneous sources I had results as follows:

Prim. Beauty, (Christy). This was the best addition of the season. A good 4 inch yellow, with tiny markings of light reddish brown, well open, a good multiplier, 4 ft. 11 inches high. If one had a hundred spikes of this, he would say, "Give me 200 more."

Prince of Wales. Every one likes this variety. With me it was too early, and the weather was unfavorable, but the color is undeniably beautiful and it will be a prime favorite.

Niagara. In hot weather was nearly all pink, and much inferior to the beautiful buff flowers that came when the heat moderated.

Baronne d'Ivoley, (Vilmorin). A fine white spike, flushed with shell pink, the first spike, in hot weather, was so poor that I was for discarding it, but in a cooler time it was very beautiful though not large. I shall try it with late planting next season.

Flora. A fine light yellow, Aug. 9th, 103 days.

Mrs. Velthuys. As good a color as *Challenger*, but smaller. Glows in sunshine. Aug. 8th, 120 days.

Rouge Torch. A bad name. Two languages should never be used in two words to make a single name. A very fit subject for a committee on nomenclature. Not very large, but a crystal white, with a blotch whose color pleases me greatly.

Titanic. Worth having for its size, but the color is dull.

Now for some disappointments.

Badenia. Refused to flower. Said to be a usual fault. Moreover, I harvested only two bulbs from three planted.

Fire Ribbon. Too small to be worth while.

Golden West. Identical with Lemoine's *Pacha* of old catalogues. Discarded years ago.

Goliath. A rich color, but too poor a spike.

Majestic. Poor spike and a small flower.

W. E. SAUNDERS, (Ontario.)

Note by the Editor—

True *Golden West* is not identical with *Pacha* by any means. See article on page 44 of the May 1919 issue.

TIME FROM PLANTING TO BLOOMING OF GLADIOLI.

Perhaps the following list would be of some interest to parties planting Gladioli in our section (New Jersey) or in fact all sections in the time between planting and blooming when planting extremely early:

	Planted	Bloomed	Days
Halley	March 8	June 21	105
"	" 25	" 22	89
"	April 18	July 3	76
"	July 10	Sept. 5	67
Pink Beauty	March 8	June 15	99
"	Apr. 8	June 21	74
"	Apr. 30	July 5	66
Mrs. Francis King	March 8	July 4	118
"	" 21	" 5	106
"	Apr. 8	" 9	92
"	Apr. 19	" 16	88
"	Apr. 21	" 17	87
Augusta	March 21	" 9	110
"	May 14	Aug. 1	79
America	March 25	July 14	111
"	Apr. 19	July 24	96
"	Apr. 30	Aug. 3	95
Willie Wigman	March 27	July 8	103
"	Apr. 29	July 20	82

These were planted in quantities, and the time elapsed was from planting until two or three dozen blooms could be picked for market. Some few blooms came four or five days earlier.

You will notice that the extreme early planting was a failure in getting any earlier blooms. Some of the early plantings had the blades frozen when about three inches high but they continued to push up from the center and produced a good crop of flowers.

This season we hope the weather will permit us to begin planting March 20. We shall, however, take a chance and plant several thousand mixed bulbs somewhat earlier, for it's the early blooms that bring the price and make the money.

Our first consignment to New York City sold for 6c. each (a few bringing 10c.) which is considerable better than 1½c. in August.

H. M. BARRETT & SON.

AUSTRALIAN LETTER.

Extract from letter, written by the head of the Botanical Gardens, Australia, under date of November, 1919, to Chas. F. Barber, Oregon.

"As to the Acacias, perhaps you killed them with kindness. If planted in rich soil and kept well watered during summer they will grow very luxuriantly and make beautiful foliage, but they soon succumb to the frosts. So I find the only way to keep them is to plant on poor, dry soil, and only allow them sufficient water to keep them alive in dry weather, and by this means they make a hardy growth which stands the frost. The same treatment applies to all our Australian plants.

"The Lilies you sent me are all doing well this season. *Henryi* will bloom; *Speciosum* has divided itself into several small bulbs which ought to bloom next season. *Washingtonianum* is coming up nicely and ought to bloom this season. Six of the seven Gladioli you sent will flower this season. I am going in more for Glads and am planting a bed of them with Asters in alternate rows for an autumn display. Here we plant Glads in November and December, so as to have them bloom in March, after the hottest weather is over. If they are allowed to bloom in summer the flowers do not last long. I also have some nice seedlings but not like those you describe, as I haven't the fine varieties for seed parents that you have. In your country you are much farther advanced in the culture of this flower than we are. But in Dahlias I think we are ahead of you, judging by the varieties listed in the catalogues. We can also hold our own with you in Roses. There are a few fine varieties raised in Australia though most of ours are imported from Britain. In the gardens here I have about 200 kinds and they are, at the time of writing, just coming into bloom. Of course, I have heard that Portland, Oregon, is a great place for Roses, but you haven't seen Australian Roses in full bloom.

"You are very fortunate, or perhaps I ought to say skillful, in raising Mecanopsis and getting it to bloom. Have you tried the blue-flowered kind from Thibet? The only kind I have is *M. Cambrica*, the Welsh Poppy, and it does not seem altogether at home here. I don't know if I sent you seed of *Diascia Barbarea* before but I will enclose a pinch herewith. I like this little plant for its long season of blooming and quaint bloom. It can be grown as an annual but is a hardy perennial here."

WHAT KIND OF CATALOGUE?

What does the average buyer of flowers look for in a catalogue? Is he especially attracted by color-prints and half-tones with which so many of the lists are filled—which are, of course, put in for his delectation—or is he satisfied with an unadorned statement of the facts; color, habit of growth, etc., which go to make up a good description?

There is no denying the artistic value of *some* of the illustrations, and especially of some of the cover-printing. But these embellishments are expensive, and someone must pay. It may have occurred to the average buyer that he is the one who pays, as of course he is. The grower and the dealer are not philanthropists. Color prints and half-tones are a part of the "overhead," aud must be charged up in the price of the stock.

There is also no denying that a good illustration is of value as a part of the description of a new variety, when there is something distinctive in the form or arrangement of the flower or plant. But where is the utility of filling a price list with illustrations of *America*, and *Augusta*, and other well-known Gladioli; and who can identify with any certainty, from the illustrations, *Mrs. Pendleton*, *Lafayette*, *Jean Dieulafoy*, or *Autumn Queen*?

A few half-tones are an excellent form of padding. I have before me two price lists of approximately the same size page. The descriptions in the larger one fill five pages, and yet there are only 38 varieties listed—about two-thirds of each page being covered by a half-tone of some well known Gladiolus. The smaller one, on two pages, has 45 descriptions—and no illustrations. Which will please the average buyer?

INQUISITIVE.

FORSYTHIA BLOOMING IN OCTOBER.

Two weeks after transplanting some shrubs from a nursery to a customer's garden, in October of last year, it was a surprising sight to me to see one of these shrubs, a Forsythia, burst into bloom as if it were spring instead of fall. Can any one explain this unusual phenomenon?

KATHERINE W. REID,
(New York.)

THE AMARYLLIS.

One of the southern Amaryllis growers advises growing the Amaryllis as you do the Gladiolus, but my greatest pleasure is derived from growing them to brighten my living room in winter. Five plants bearing buds in various stages of development now adorn my living room. One bloom, just opening, is pure white veined scarlet. Two other favorites are a white veined crimson and a pure, fiery red. The southern grown green bulbs are much easier to handle than the dry bulbs, by one without the facilities of a greenhouse.

After blooming keep them growing vigorously through the summer, setting the pots out doors in a sunny location. See that they have plenty of water and an occasional dose of liquid manure or other fertilizer.

As fall comes, gradually dry them off until the leaves ripen and drop off.

Place in a moderately dry atmosphere (a damp cellar won't do) and keep dry until they are ready to grow again when they will usually commence operations by pushing up a bud into view.

Mrs. F. A. Lorenz (Ohio)

MULTIPLICATION OF GLADIOLUS CORMS BY CUTTING.

In a recent number there was a question about cutting Gladiolus bulbs at the time of planting, and as I have utilized this method for years, I may say that I have had little success when I have made more than two divisions, but when cut into two, the results are satisfactory in bloom and the resulting bulbs are of good size. Cutting must be made at the time of planting, and if, when the bulb is examined, it is found that two shoots are coming anyway, there is no advantage in cutting, but if the bulb intended to grow only one spike, cutting will compel it to make two. I have had the idea that one could cut into 3 or 4 divisions if the bulb were planted, and allowed to make roots two inches long, and then taken up and divided. The roots are the vital point, and once they are fairly started they ought to develop a shoot. No experiments in this direction have been tried by me, but the theory appeals to me.

W. E. Saunders.

EARLY PLANTING FOR GLADIOLI.

I have learned by experience to put all my bulbs in at one time, not later than the last of April if possible. I plant at least six inches deep and hoe the rows toward the plants the last time they are cultivated. I secure a succession of bloom for over six weeks, and what more can anyone ask for?

By early planting every bulb has its proper chance to grow big and sound, which late planted bulbs never do. Bulbs planted deeply need no stakes. I cut my bloom every day as it opens, never allowing more than three flowers to open before cutting. I think this tends to make the bulbs stronger. I plant in the vegetable garden or potato field, as I think they do much better under the deep thorough cultivation they receive there.

Mrs. E. B. Murray.

RAPID METHOD OF PEELING CORMELS BEFORE PLANTING.

For peeling cormels I use a small stiff pair of tweezers such as barbers use for removing ingrowing hairs. They should have fairly sharp points. Hold the cormel in the left hand and grab the point with the tweezers giving a quick pull. This will tear off a strip of the outer covering without injury to the kernel. If the skin breaks moisten the cormels a little. I do not find that the husk needs to be entirely removed.

Have developed a speed of 14 to 15 a minute using this method. A covering of burlap is helpful in germinating peeled cormels.

Arthur C. Perrin.

TO GET HIGH GERMINATION OF GLADIOLUS CORMELS.

Pass this along the line. I got my small bulblets to grow well in the following way: Dug a flat bottom trench three inches deep and three inches wide at the bottom. Then I poured boiling hot water in at the rate of about six quarts of water to ten feet of trench. As soon as I could bear my hand in the dirt turned in the bulblets evenly. It seems that every one of them came up.

W. J. Eldred.

SECURING PEONY SEED.

I did not deem it necessary to instruct where to secure the seed. Any florist, or any one having a blooming clump of single Peonies, will have seed. No single Peony fails to seed freely. My only clump of single white, and not over large, bore a full pint of seeds near as large as small early garden peas. It seemed a very shame to allow these all to go to waste, and this was how we decided on the experiment of seeing what we would get by planting them. The seedsmen do not offer them for the same reason that florists did not offer the roots, until I had personally appealed, insisted and unloaded my surplus onto them almost without their consent. The majority of the seedlings are single, semi-double and little Japs; all seed bearing plants. I had one year just 20 lbs. of seeds at $5 per pound, selling for $100 cash, and same as with my first offerings of roots, I had to hustle out to find a market, but as with the plants, our Uncle Sam helped me promptly. Never yet failed. "Faint heart never won," etc.

One can sell any plant or seed if really worth marketing. A few letters to the florists and you are sure to find the right man, if you have it in quantity to make it worth his while.

By buying a good sized plant three or four years old, its first bloom will give you all the seed you care for perhaps. You may visit a nursery in July, and be able to gather all you care for. As to advertising them, no one perhaps has sufficient amount to meet the scores of letters and orders that would follow.

It may be well to state, if seeds are planted as soon as ripe, they will grow at once and be winter-killed, as will most plants so young.

Sarah A. Pleas.

HARDY PERENNIALS.

The article on Hardy Perennials was greatly enjoyed. I have been preaching the religion of the hardy garden, lo, these many years, as against annuals, and the formal beds in colors of bulbs, or tender Coleus or other greenhouse plants for the mother or busy housekeeper, and all who love nature in all her varied displays of mixed colors. Have never seen a combination in nature that did not harmonize.

By selecting the earliest Phlox, with some of the most beautiful later kinds, including white, I soon have them in every shade and marking, from the earliest bloom until frost, the bees and insects being nature's hybridizers. Since, when the black bugs destroyed their bloom, I could only foil them by breaking out the entire head, when it would soon be renewed by one larger, flatter, and more floriferous than had been the first. By keeping this up, the season of bugs has passed, and I thus keep my Phloxes full of bloom until frost. This treatment is as satisfactorily practiced on Hollyhocks and Perennial Larkspurs, and some other perennials and shrubs.

Sarah A. Pleas.

PAMPAS NOT BLOOMING.

A subscriber in the state of Washington reports, that a large thrifty looking clump of Pampas Grass in his lawn, which is six years old and grows luxuriously, has never produced any of the silvery Pampas plumes. His soil is a sandy loam with good drainage and he irrigates during the dry summer months, and the clump seems free of disease and insect pests, and stands five feet high. Any reader having experience will confer a favor by giving information on this subject.

"Baby Bettie" among the Asters—Showing an unusually fine growth of Asters.

Mrs. Austin's Talks.

[*Continued from page 51.*]

the grasslike blades from bulblets of the preceding season's formation. If the owner of that little Paradise of bloom could know of the pleasure his garden had afforded me I am sure he would have felt well repaid for his efforts. I was loth to leave that lovely place but the sun was dropping behind the hills; we were a long way from our rooms.

We feel that some of the great things of California are right here at the door of our apartment for the entrance is mantled with a climbing Rose, the height we estimate at 25 feet, and its spreading width fully 30 feet.

One member of our party is a lumberman and when his practiced eye rested on the trunk of that Rose bush he recognized it as *big timber*, whisked out a rule and was caught by the camera. Seven and one-half inches in diameter by actual measurement.

Mrs. A. H. Austin.

Those who cannot send us a list of actual subscribers at the special club rate as per our recent circular offer, should send us a list of all those whom they know to be real flower lovers.

The American Iris Society.

OUR MEMBERSHIP is constantly increasing, we should reach the 300 mark by April 1st, and the enthusiasm of the individual members is a constant pleasure. In California, Mr. Mitchel is receiving hearty support and it is hard to realize that there, the Iris are in full sway. The dwarf pumilas are almost past, the rich claret-colored Kochii is lingering and with Caterina the Iris climax is approaching. Minnesota as represented by The Northwestern Peony & Iris Society is considering in what way co-operation with the A. I. S. may prove of mutual advantage.

In the North Central region, Mrs. Samuel H. Taft plans an Iris Exhibition, probably in connection with the Garden Club of Cincinnati which has done so much to beautify that city. During the Iris season, a window display on a main thoroughfare will do much to popularize the Iris; the plan has proved successful at St. Thomas when introduced by Dr. F. E. Bennett and is one that gives many of our local members an opportunity to get in touch with others of similar interest and to see varieties that he does not grow.

Members from Tennessee are the most numerous in the Southern district. Mr. Bralliar has suggested a planting of Siberian Iris near Nashville for study; at first, this seems a small subject but already we have over 30 varieties on our check list. In Mrs. Katherine P. Wright he has found a willing co-worker and her announcement to "Iris Fanciers" points the way towards a wholly informal association of Iris lovers. Briefly, an announcement in a local paper calls on anyone, who wishes to share the beauties of their garden at its prime, to put a notice in for the "Iris Fanciers," inviting their attendance at a certain time to see certain varieties. In addition Mrs. Wright invites them to bring cut-flowers to her garden perhaps three times during the season for an informal show. The A. I. S. will offer stock of fine varieties as prizes to increase the interest, and I think the plan might be followed to advantage in other places. It is a friendly plan, a pleasure to all.

In the East there will be, we hope, a garden meeting in the vicinity of Boston, and an exhibit in connection with The Mass. Horticultural Society. At Flushing, L. I., we plan to co-operate with the Park Garden Club, and a similar amateur exhibit will be held at Tacoma Park, D. C. The New York Botanical Garden is to be the site of our Test Gardens with a complete collection of all varieties, at the Brooklyn Botanic Garden, Japanese Iris will be studied, and at Cornell we plan to assist in the studies of Pogoniris that have already been undertaken. The Department of Agriculture also requests our assistance in developing the collection of Iris at Arlington. The great event in this district, however, is the Philadelphia show to be held in conjunction with our Annual Meeting about June 1st in the Finance Building of the Penn. Hort. Society.

This is but a brief review; to a prejudiced observer, it looks as though there were "something doing" and that among these plans enthusiastic members may find fruitful suggestions for action. Owing to the recent illness of Dr. F. E. Bennett, I can report only of the many expressions of interest from our Canadian friends.

The work of the committees is also showing progress; extremely good papers on culture have been received from D. M. Andrews and W. F. Christman, and others are promised, they will form a valuable addition to Iris literature. Mr. Morrison, chairman of the committee on Botany is taking up the nomenclature of the many hybrids of Trojana, cypriana, and mesopotamica, three species which are inextricably mingled in the trade. Mr. Wister has been able, with other assistance, to increase the check list to about 2000 names and that appears so far from the total that no announcement of even a preliminary report is possible.

I wish to thank, on behalf of the Society, Mrs. Charles H. Stout, of Short Hills, N. J., for the offer of a cup for amateur competition. It is a pleasure to find that one who is so interested in the Dahlia, extends her kindness to include the Iris.

That the A. I. S. plans to establish plantings of Iris in many localities is known to you all, but without the hearty support of each and every member it will not be possible to do this on a large scale. We ask YOU to forward lists of stock, available for this purpose to R. S. Sturtevant, Sec'y, Wellesley Farms, 95, Mass., telling, if possible, where and when you purchased each variety.

From these lists varieties will be selected as required, selecting such as seem to be from the most authentic sources and requesting the forwarding of the plants as far as practicable to the garden in your vicinity. Even though you have only a few varieties, among them may be one difficult to procure elsewhere. It will be of interest to learn the present names of the varieties of old-time gardens and each of us will have one or more varieties unnamed. Three or, on occasion, one plant of each variety will be sufficient for our purpose.

A constitution necessarily contains much of mere business detail, of absolutely no interest to many members. Therefore, I present an abbreviated form and will be glad to answer any further questions for individual members.

CONSTITUTION OF THE AMERICAN IRIS SOCIETY.

Article 1.—The name of this Society shall be THE AMERICAN IRIS SOCIETY.

Article 2.—The object of this Society shall be to promote the culture and improvement of the Iris. The methods of attaining this object may include: (a) The ownership of land and other property, including test and exhibition gardens, libraries, photographs, lantern slides, etc. (b) The compilation and publication of data concerning the history, classification, breeding, cultivation and exhibition of Iris. (c) The encouragement of Iris cultivation and breeding by holding exhibitions of Iris.

Article 3.—The membership of this Society shall consist of (1) active and (2) honorary members. (Associate and Affiliated members to be considered at Annual Meeting.)

(1) Any person interested in Iris is eligible to nomination to active membership. * * Each active member shall pay annually on January 1st * * a membership fee of $3.00 for the ensuing calendar year * * Any active member may become a member for life by the payment * * of $25.00. * *

(2) Eminent persons who have rendered distinguished service to the knowledge and development of the Iris may, * * be elected honorary members. * * *

Article 4.—Section 1.—The Society shall hold (an) Annual Meeting for the election of officers and for the transaction of general business * * adequate notice shall be given.

Section 2.—Special meetings of the Society may be called by the President (on 30 days notice to consider stated subjects.) * *

Section 3. Special meetings of a local character (for exhibitions, lectures, etc.,) may be called by the Regional Vice Pres. upon notice to all local members.

Section 4—All exhibitions or meetings involving awards by the society, shall be conducted in conformity with the rules of the Society.

Section 5.—* * The appropriation of money must be approved by the Board of Directors.

Section 6.—Ten active members shall constitute a quorum. * *

Article 5.—Section 1.—The officers of this Society * * shall be (1) President; (2) Vice President; (3) one or more Regional Vice Presidents; (4) Secretary; (5) Treasurer; (6) Board of Directors consisting of above mentioned officers and six other active members.

Section 2.—Election of officers shall be at the Annual Meeting by Ballot, in person or by Mail. * *

Section 3.—Regional Vice Presidents may be selected for any one or more of the following districts: (1) Eastern District, including the states from New England to Virginia, inclusive; (2) Central District, including the states of Michigan, Ohio, West Virginia, Kentucky, Indiana and Illinois; (3) Western District, including the states of Wisconsin, Iowa, Missouri, Montana, Colorado, and all states between; (4) Southern District, including all states south of the preceding districts, except New Mexico; (5) Pacific District, including Idaho, Utah, New Mexico and states to the west; (6) Canadian District.

The Regional Vice President shall be elected by the active members resident within the district as they may provide or, lacking such action may be appointed by the President * *.

Section 4.—(Two new directors elected each year.)

Article 6.—Duties of Officers.

Section 1.—The President shall preside * * and shall have general superintendence * *.

Section 2.—The Vice President shall perform the duties of the President in case of his absence or inability.

Section 3.—The Regional Vice President shall, subject to the control of the Board of Directors, have direct charge of all affairs of the Society in his district including all trials, exhibitions, or special meetings. He shall have power to appoint committees to assist him.

Section 4.—The Secretary shall keep a record of the proceedings of the Society, * * and conduct its correspondence. * * etc.

Section 5.—The Treasurer shall receive and keep account of all the moneys and securities of the Society, (and so on.)

Section 6.—The Board of Directors shall, subject to the general control of the Society, have care and control of its property, the transaction of its business. * * The Board * * may * * by majority vote cancel the membership of any members when they consider that the welfare of the Society necessitates such action.

Article 7.—The Seal. (Left to later action.)

Article 8.—The Board of Directors may, from time to time, adopt suitable By-Laws not inconsistent with this constitution, subject to amendment or repeal by the Society; and the Society may adopt By-Laws not inconsistent with this constitution by a two-thirds vote at any meeting.

Article 9.—This constitution may be amended by a two-thirds vote at any meeting, provided that notice of the proposed amendment shall have been submitted thirty days in advance.

I wish to call your attention to certain points in the constitution. Two forms of membership are to be considered at the Annual Meeting in June, viz: Affiliation and Associate. Register your views on these so that even though you cannot attend, your wishes may be considered. A ballot for the election of officers will be printed in the May issue. You may vote by mail.

Plans for the development of the Society were presented in the January FLOWER GROWER, the report of the first meeting in the March issue, the constitution is before you, the time to present any suggested additions or changes is the Annual Meeting that will be held at Philadelphia about June 1st and copy for the May issue of THE FLOWER GROWER must be in by April 5th.

There is news that the American Iris Society may cooperate in the exhibit of The Alameda Co. Floral Society near Oakland on April 25-27th. There is every expectation that this will be accomplished successfully and there are also other suggestions for California exhibits.

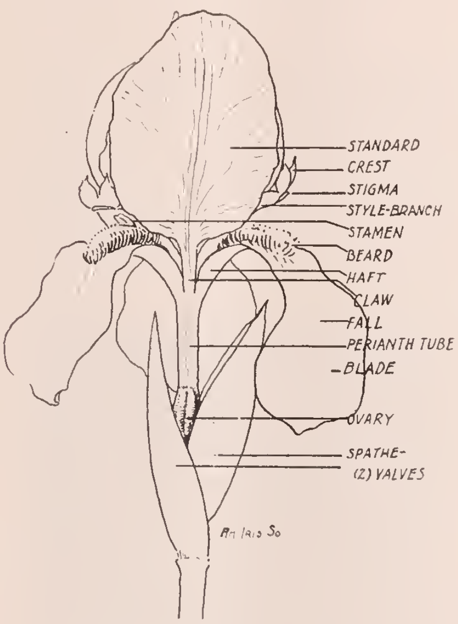
THE INFINITE VARIETY OF THE BEARDED IRISES.

Many of you appreciate the great range of color presented by this section of the genus Iris, but I think that you will get an added appreciation through the report of the work of the Committee on Nomenclature of the A. I. S. which has already under way the issue of a Standard Data Card for the accurate description, and subsequent recording of all varieties. This will be supplied to all members with a request that it be filled out for the Society's records, if the members want to keep records for themselves, duplicate cards may be obtained. It is largely a matter of checking the proper terms with the flower before you; and breeders, or even those who raise chance seedlings only, should find it of assistance and value. The Chairman, Miss Grace Sturtevant, has had the active assistance of Mr. A. J. Bliss, the English breeder, Mr. C. H. Hall, Mr. B. Y. Morrison and myself in editing this form and the results have been approved by many of the Iris specialists throughout the country.

To condense all the necessary terms needed to describe each separate character within the space offered by a 3x5 index card has been difficult, it seems good, but criticism is easy and after actual use, improvements may be added. Many of the terms are self explanatory and an accompanying card of diagrams seemed the best method of carrying exact ideas of the shape and carriage of the segments; throughout, comparative terms have been avoided where possible and if a certain variety seems commonplace in certain characters, checking is unnecessary. Other qualities offer more play for the imagination and few of us at first realized to the full, their importance.

What do we ask of a fine variety? First, good growth, hardiness and an attractive habit, which Mr. Bliss defines as "the disposition and number of growths and flower stalks thrown up by a clump." Compare the compact habit of *Monsignor* to the openness of *Caterina*, or, if you agree with Mr. Hall that a clump should be symmetrical, circular in growth, then *Caterina* is rarely of regular habit. In the flowering our interest is centered in the number of stalks to a plant of a certain age; occasionally a first-year seedling will produce two or three stalks of bloom, that is what we term free-flowering, whereas a variety like *Mesopotamica*, in many localities, is a shy bloomer to put it mildly. The number of full-blown flowers out at once on a single stalk together with the lasting quality determines whether a certain variety is to give us color for a few days or much longer. Climate and culture may affect these things, but with us the delightful pink-lavender of *Mrs. Alan Gray* passes quickly, while *Alcazar* even in an unusually hot spell, was in full display for almost two weeks; here *Kochii* often lasts but a week, yet in California it gives a scattered bloom for months. On both of these points and on the branching characteristics our records are very vague and yet it is the disposition and degree of branching that make the flowers of one variety appear crowded while in another they stand well apart and create a pleasant suggestion of elegance in the single stalk. The pallidas are typically short branched and near the top of the stem, which conduces to a fine massed effect, in fact the bulk of the old varieties show this character, but with Trojana and other closely related species from Asia Minor long branches, sometimes nearly erect, (fastigiate) but often widely spreading have been introduced with each great blossom held well out from the central stem, apart from its neighbor, untouched in its perfection. The number of branches, the total height, the number of buds, under the best conditions of culture reveal the latent power of development. All these things in the aggregate affect us and influence our judgment, but so diverse is personal training that only by an attempt to analyze them into their component parts can we get reliable records.

With the flower itself we come to what receives everyone's attention whether they note other points or not, yet how many appreciate the niceties of form and substance, texture and surface! The flower taken as a whole rarely has a form that can be defined, but compare the length in comparison to the width of *Phillis Bliss* (as pictured in *The Garden* for June 21, 1919) with its long drooping falls to *Nine Wells* with horizontally spreading falls and standards forming a short pointed cone. The narrow segments of the rich but weirdly colored *Eldorado* might be contrasted with the compactness of the broad-hafted *Iris King*. In the new introductions these contrasts become more marked.



STRUCTURE OF THE IRIS FLOWER.

A necessary reference for accurate description. Every member of the American Iris Society should know the parts of an Iris flower in order to appreciate the fine points of its description.

Substance, texture and surface are closely interwoven; the first, substance, might be expressed as backbone, at times there is a solidity, an impalpable appearance of thickness, "body," to quote Mr. Bliss, and often together with this is a surface sheen or luminosity that intensifies the color, reflects or absorbs the light as might a piece of satin, velvet, or velour. *Pallida Dalmatica*, *Princess Beatrice* has a satiny luster, *Iris King* or *Perfection* a bit of rich velvet on their falls; sometimes the surface is not smooth but creped like a Japanese paper napkin, or wrinkled, cockled or even crumpled. These may be clearly defined or pass one into another with no marked break. Texture is a simpler character, showing in a variety's ability to retain its form under adverse weather conditions, some wilt at the slightest excuse, others in rain or drought still hold their beauty of form.

Color demands a full and separate description on each card, it is impossible to assemble on one small card terms of disposition, the actual hues, tints and shades possible in Iris. Where a member can compare the flower with a color chart so much the better.

The description of the flower as a whole is rarely possible, we must more often describe the standards and falls and at times, as in plicatas, note the coloring of the style-branches and the pattern on the edges that marks our favorites, or, perhaps, the peculiar brilliance of the beard.

The standards may be considered from two points of view, their form as a set of three, or as individuals. The standards of *Monsignor* tend to form a cone, in *White Night* there is a more rounded effect, and in flowers like *Merlin*, cup-shaped does not seem far-fetched. At times the shape as a whole is hidden by the character of the individual segments where they happen to be broad and ruffled or more narrowly frilled, sometimes there is a hint of vertical fluted channels, or they may be revolute as in *Mme. Chereau* when the edges curve back upon the midrib. These are what we call modifications of shape. Mr. Bliss selects seedlings with smooth rounded falls as his ideal, but who that has marked the fascinating frilling of *Juniata* or the heavy frosted crepe of *Zua* can think of holding only one ideal.

The valuation that each member may put upon a variety is an arbitrary one; sometimes based on color, perhaps we dislike the clouded yellow of *Nibelungen*, or the vivid contrast of *Fro;* again it may be the pleasing relation of stalk, branching and flower size that gives a well-balanced effect; at times perfection of form, luminosity of surface, fragrance, or mere oddity even, any or all these qualities give outstanding quality on the record card and for the garden. Only on a consensus of opinion gathered from far distant plantings can be formed a true basis for real valuation, and it is under "Remarks" that we ask for personal opinions, experience, and preference, unrestricted by terms. Thus we can judge not only the merit of a variety, but its popularity and adaptability to your cultural and climatic conditions.

From these data cards will be compiled standard descriptions that reflect not the opinion of one observer in one garden but that of many in many gardens and we hope they will be numerous enough to form the basis for the registration of new varieties, which, with the great number of new introductions, is becoming not only desirable but almost a necessity.

Later the committee will report on classification, will take up the question of score cards and points for judging, and they have already collected over 2300 names for the check list.

R. S. Sturtevant, Sec'y.

THE IRIS.

Irises in April.

[*Written expressly for The Flower Grower.*]

IN MASSACHUSETTS this is true, but elsewhere perhaps not so at all, and immediately we see one of the difficulties in forming a Classification of all Iris, suited to all climates. Horticulturally these early Iris fall into two groups, delicate growers of the Juno, reticulata, or pogon groups and the pumila hybrids that thrive in any garden, make splendid edgings, and in great masses of purple, white, or pale yellow add greatly to the spring color scheme.

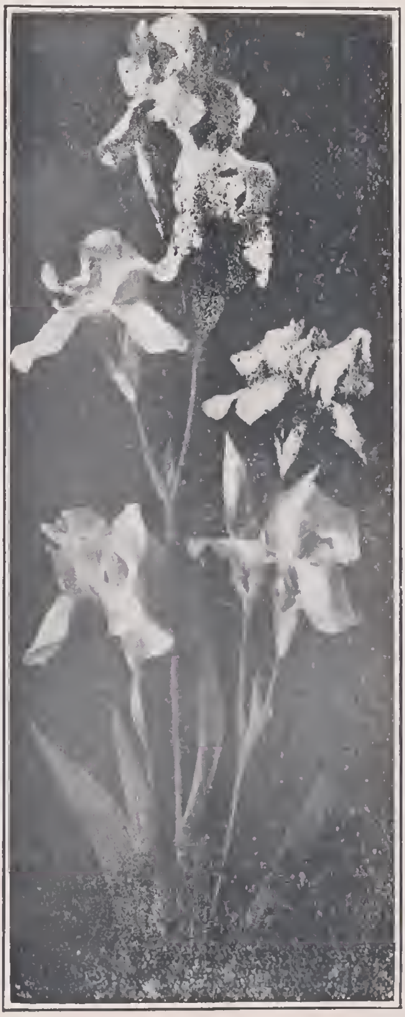
The Junos; bucharica, orchioides, sindjarensis, and the fascinating winged alata which in some climes joins stylosa in winter bloom, always remind me of thrifty dwarf corn plants with delicate Iris flowers, sometimes terminal, or more often tucked into the axes of the leaves. I have had a number, but they do not take kindly to my thin, gravelly soil and shortly vanish; they are charming, but so lush that the spring frosts have a pitiful effect upon their frailness and I leave them to others who will protect them with frames or are blessed with better weather. The reticulata group, histrio, histoides, and reticulata in its varieties are low, with needle-like leaves at blooming time and remind one of the Spanish forms; often we find them well-established in old gardens, they thrive so well. *Krelagei* is later blooming a bit, and a slightly redder purple and in England we find mention of many named varieties. Of all these I can say little, but like the equally dwarf true pumilas their place is with other treasures in the rock-garden where the struggle for survival is less intense. There are many colors among these last, coerulea, a delightful blue tint that we can often purchase true to name, but for atroviolacea, atropurpurea and others, sturdier hybrids are often substituted, to the advantage (I must acknowledge) of all but the most careful gardeners. I think these true pumilas should make some fascinating drifts of color, but so far I have had only incidents, touches of frail bloom in combination with the strawtoned *Crocus stellaris* or the fading lavender of *C. Thomasinianus*, both of extreme delicacy.

The subject of the origin of the many pumila hybrids, sometimes called Alpine or Crimaean, I dare not venture into, many of them we owe to W. J. Caparne, but so gaily do they seed that now there are some 300 named varieties, each firm has its selected forms and you may as easily raise your own. The pure white *Schneecuppe* is lovely and the clear yellows are charming, but many are only near whites or yellows and have smootches of olive or gray that mars their purity, and makes care in selection desirable. The varying shades of purple are almost all worthy, some deep claret, some blue-purple with white beards, some with bronzed lights, all are additions. Whether you select the plants in the nursery or from seedlings of your own raising, they should be made a part of your spring garden. I tuck them in odd corners along the stone-edged paths where their color can show in contrast with lavender Phlox, White Arabis or Candytuft, and early Tulips of many hues. Plant them at any season,4-6 inches apart for massing, and for amusement you may dig them after the first hard frosts, set the clumps next the glass or even in a sunny window and in mid-winter their delicate flowers will be appreciated. Try a few, forget about them, and in April, perhaps even in October, suddenly you will realize their fine effect.

Grace Sturtevant.

Bearded Iris—Dimity.

This very beautiful form needs to be seen in the garden even more than some of the others in order to see and appreciate all its good points. It is of the *Mme. Chereau* type, and remarkable for freedom, among other good points. A glance at the illustration will show the vastly improved branching habit of *Dimity*, in common with not a few of these modern Irises, an attribute which, in conjunction with new color shades and handsomer, more firmly textured flowers, renders them of a far greater garden value than their predecessors. The object of the cross, Mr. Bliss tells me, was to obtain a paler I. plicata than *Mme. Chereau* or possibly a white. The result was about as hoped for, but the specially fine veining in *Dimity* was a quite unexpected feature. The *Mme. Chereau* character of finely penciled violet or other markings on the standards and falls is not seen in the illustration, nor is the veining made possible. These notwithstanding, it is a charming and distinct variety, its patch of almost wholly white a welcome change amid the clouds of blue, lavender, and shades akin.—E. H. Jenkins in *Gardening Illustrated.* (English.)



Bearded Iris—*Dimity.*

The Montbretia, a Cousin of the Gladiolus.

[*Written expressly for The Flower Grower.*]

How many know the Montbretia? Some of you may know it as Tritonia, for that is the name given to it by our botanist friends, but Montbretia is the commoner name. It is listed by some of the larger seedsmen, but without any special words of commendation, and yet it deserves to be well known.

I would like to propose it as a member of Gladiolus society. It is a near relative of the Gladiolus, with foliage almost identical in form, though the leaves are not so large, and the tips are not quite so sharply pointed. The plant is not as tall as the Gladiolus; from the ground to the tip of the flower spray it is two feet or less in height. The loose branching spikes, or sprays, are gracefully formed—the individual blooms not close set as with the Gladiolus, and considerably smaller. In form, too, the blooms are unlike the Gladiolus, being more like miniature Lilies.

There is no wide variety of color—yellow, orange and red, in various shades and combinations, being all that have developed thus far—so that in planting with Gladioli it is necessary to have an eye to the proper color combinations; but, especially around a bed of *Primulinus Hybrids*, the lower growing Montbretia makes a very effective border plant.

Growing on the sunny side of a shrubbery border, or in a perennial garden, the Montbretia adds a touch of color in the late summer and fall that brightens up the planting considerably, but it should not be planted close under or among shrubs, for, like its cousin Gladiolus, it is at its best in the full sunshine.

As the Montbretia is not an early bloomer it should be planted early—at least by the middle of May—and it should be given clean cultivation. It is as hardy and vigorous as the Gladiolus, and will respond to similar treatment—it does not need coddling.

If you are not acquainted with the Montbretia it will be worth your while to make the acquaintance. A half dozen sprays of these graceful flowers make a cheerful table decoration, and their long-keeping qualities make them doubly desirable. They will more than repay you for the small amount of labor involved in their growing.

Thomas M. Proctor.

THE DAHLIA

The Increasing Popularity of the Peony-Flowered Dahlia.

This type, introduced in Holland less than twenty years ago, proves to be one of the most satisfactory classes of Dahlias, especially because of its ability to blossom freely, and to produce its flowers on long stems.

Among the most satisfactory and prominent of the earliest varieties originated, that still remain as good as the most expensive, and some unsurpassed are *Dr. Peary*, a rich velvety wine-crimson, *Glory of Baarn* of soft rose-pink with a golden yellow center. *Queen Wilhelmina* is undoubtedly the finest of the pure white sorts, with long curling petals or florets, giving a fluffy appearance. In pale yellow is *Caecilia* and in the deep golden yellows *Caesar* holds a prominent place. From England about six years ago came *John Green*, a golden yellow quickly changing to fiery scarlet, which attracts considerable attention, with its curled petals that are slightly quilled and more pointed than most of the Peony-flowered varieties.

P. W. Jansen one of the first, and still unsurpassed, leads all the varieties with a combination of autumn shades, salmon and yellow, in size and length of stem.

One of the most attractive, which occasionally is nearly single is *Frigolia*, an American introduction, with an attractive blood red shade tipped white. In mauve shades are *Sherlock Holmes* and *Zeppelin* both of which are abundant flowering, and among the first from Holland.

For a good scarlet Peony-flowered we have to come to the new Peony-flowered varieties of American origin, and the variety *Carl Purdy* from California seems to lead them all in my estimation.

Bertha von Suttner of the salmon-pink shades has no rival as yet, and *Geisha* is still pride of them all.

J. K. Alexander.

Getting Dahlias Ready for Planting.

With the opening up of Spring, we commence to think of preparing for planting.

Most amateurs keep their Dahlias during the Winter in clump form, so during the month of April, it is well to prepare for planting.

If the clumps have not already commenced to show sprouts, it is well to heel them in; either in your hot-bed, in the cellar, or in the open ground.

They will commence to absorb moisture, and very shortly the sprouts will commence to show.

After sprouts show, the tubers can be separated, with a sharp knife. Only one tuber should be planted in a hill, so be sure to separate leaving but one tuber.

My article in the May issue will tell those who do not understand, the best way to separate the Dahlia clumps. An illustration will appear showing how.

J. K. Alexander.

To Induce Dahlia Bloom.

I find that growers of Dahlias are sometimes disappointed because they do not get the blooms that they think they should have. This is due to natural causes, which the grower brings about very often by not knowing the conditions required to produce the blooms. One fault is too early planting; another difficulty is an extreme hot spell in early summer, which causes a small, poor growth and hardens the blooming wood. In a case of this kind, nothing but small, poor, deformed flowers, if any, can be expected.

This can be remedied in most cases by cutting the plant hard back early in July; the plant will then quickly produce a new strong growth and good blooms can be looked for.

Late this autumn a well known florist asked me to make a trip to his place and tell him what was the matter with his Dahlias. I went with him, and as soon as I arrived near the field I could easily see the trouble. They had been planted extra early, the blooms for use had been cut with short stems, especially the white ones for design work, which helped to increase the small growth.

As it was too late to help this season, I advised him to cut back another season in early summer, and in cutting the flowers to always cut long stems, and shorten to suit afterwards. My advice to all growers is to not be afraid to use the knife as by so doing shorter and bushier plants can be grown. We see lots of them with two feet or more bare stems around the plant while the top is away up in the air. This can be avoided if the plants are shortened in time.—Richard Vincent, Jr., in *Bulletin* of American Dahlia Society.

Dahlia—*W. W. Rawson.*

(Subject of illustration on front cover page.)

W. W. Rawson, Giant-flowering or Colossal Dahlia, was originated by Mr. A. E. Johnson of Brockton, Massachusetts, about ten years ago. It was purchased by the W. W. Rawson Co., of Boston, who saw its possibilities when first exhibited as a seedling under the name of *Annie Bird*. It was first exhibited at the exhibition of the New England Dahlia Society, at its Fall exhibition in Horticultural Hall, Boston, Mass.

This Dahlia was introduced by the W. W. Rawson Co. who offered it for sale at retail, but its wholesale distribution is due to J. K. Alexander, of East Bridgewater, Mass., who acquired a stalk of it when under the name of *Annie Bird*, and offered it for sale later, after it was introduced by the Rawson Company, to his florist and seedsmen customers throughout the United States.

It is popular in all parts of this country, and now appears in French and English catalogues.

The color is pure white overlaid with amethyst-blue. This combination of colors gives the first impression of a delicate lavender. It has long stems, is of large size and is free-flowering. Flowers measure from 7 to 9 inches in diameter.

Over Propagation of Dahlias.

"I wish to take advantage of this opportunity to bring before this Society for consideration an evil that is gaining practice and that will mitigate against the popularity of the Dahlia if persisted in. I refer to the over-propagation of new seedlings, resulting in much weakened plants. A grower produces a fine new Dahlia, the second year it improves and he has several plants that produce beautiful flowers. In his haste to get up a stock the plants are over-propagated."—William J. Rathgeber at the last meeting of the American Dahlia Society.

American Dahlia Society.

AUTUMN SHOW—EXECUTIVE COMMITTEE MEETING.

At the meeting of the Executive committee of the American Dahlia Society held at the International Flower Show in the Grand Central Palace, New York, March 19, it was decided to hold the autumn show in New York during September at one of the centrally located hotels and to charge exhibitors a reasonable price for floor space and to also charge admission, to defray the expenses.

The meeting was attended by growers from many States and considerable space was taken by those present at the meeting and a substantial guarantee fund was started.

The plan is to give the greatest Dahlia show ever held and work to that end has already been started and will be prosecuted vigorously and continuously until show time. Every Dahlia grower and lover of this popular flower is invited to co-operate.

President Vincent moved that Prof. George Fraser of the Connecticut State Agricultural College, Storrs, Conn., be tendered the thanks of the Society for the excellent manner in which the trial grounds were conducted last year, which was carried and Prof. Fraser was made a life member of the Society.

The trial grounds will be continued and will be larger and better than ever. Tubers for the trial gardens should be properly labeled with the name of the variety and exhibitor and sent to Prof. George Fraser. Last year there were many visitors throughout the season and as the trial grounds are recognized as a permanent institution there will be more visitors this year than ever.

James Duthie, Oyster Bay, N. Y., moved that a new scale of points be made so that good exhibition varieties and varieties good for cut flowers be given an equal chance. The motion was carried.

A motion was passed protesting the quarantine of the States of Illinois and Michigan against Dahlia tubers and bulbs.

Let Dahlia growers everywhere, amateurs as well as professionals, begin now in the effort to make this the greatest exhibition of any single flower ever held.

Edward C. Vick, Sec'y.

Dividing Hardy Plants.

The advantages of a frequent division of the tufts of many of our best hardy plants are so great that the practice can be strongly recommended, and should be extensively adopted. Opinions vary as to the best time for the work, some preferring the autumn, others the spring. After an extensive practice of the system for several years I prefer the months of March and April.

Plants that are divided during October and November do not make fresh root growth, and therefore, even if firmly planted, they are apt to be thrown out by frost, and in wet or heavy soils the newly-divided pieces will even perish during the winter, as I found out once to my cost, as I lost a good stock of Coreopsis lanceolata, which was divided and boldly grouped in autumn. It rotted, however, during the winter. This was an exceptional case, as the tufts were divided into very small pieces and the soil was both wet and heavy. On the other hand, I once divided tufts of the same plant into small pieces early in June and planted them carefully and every one grew. They were in bloom by July, and continued to flower most profusely till severe frost set in. This example of failure and success with the same plant shows that an operation of a most useful character may have disastrous results if carried out at the wrong time.

Generally in March or April the beds and borders of hardy plants are overhauled with a view to putting them in order for the season. The old and orthodox way is to dig around the respective tufts and ruthlessly chop in any that have overrun the prescribed space. Often these are the very things that need dividing, and they can be most successfully done at the present time. Where a tuft of a good thing has grown large it would be best to lift it and shake out, or, if necessary, wash out from the roots the adhering soil, when dividing becomes a very simple operation, easily carried out. If a few roots are secured with each piece they will suffice to keep the plant firm in the ground and alive till new root action commences, which at this time of the year means almost immediately. Of course, this wholesale practice of dividing must not be universally applied, because, as is well known, there are some good hardy plants that resent disturbance at the root, and which, when once established in good, well-prepared soil, will stand for some years. Among these are the rhizomatous section of Irises, Day Lilies, Peonies, Tritomas, Plantain Lilies, and many others.

As a general rule, however, most of the fibrous-rooted and tufted hardy plants especially such as the Phloxes, Michaelmas Daisies, perennial Sunflowers, Rudbeckias, Heleniums, Campanulas, Œnotheras, etc., can be divided with ease. Moreover, these are things that it is most desirable to have in quantity both from their effectiveness and usefulness for cutting, so that instead of leaving a few scattered tufts to form part of a confused and inartistic arrangement, the same tufts freely divided will give sufficient stock to plant in bold groups, which will have a more telling effect. Considering the trouble taken in propagating and preserving a stock of tender things for the flower garden, it is rather surprising that we have not attempted to increase some of our best and least troublesome, because most hardy plants. We are now finding out that the annual or biennial dividing and transplanting into fresh soil tend to materially prolong the season of blooming, even from weeks into months, and in these cases the old objection of the short blooming season, even if it ever could be legitimately urged, must now be waived. The development of a most desirable quality, namely, continuity of flowering, will enable such plants, though hardy, to play an important part, even in the flower garden arrangements especially designed for the summer's display.—A. G. in *Gardening Illustrated.* (English.)

James E. Russell.

In the little city of Paulding, Ohio, on West Jackson street, is a blacksmith shop where the fire was wont to glow from early morning until the shades of night came down like an unfolding curtain o'er town and country. Here the sturdy smith and his brawny assistant worked together for twenty-two years shoeing horses, mending broken implements and machinery for the thriving country folk who knew the worth of good honest work.

Jim Russell was honored for his careful work and loved for the kindness of his heart. His worthy helper, who had been with him for twenty-two years tells us that not once in all those years was an unkind word spoken to him by his employer.

For many years Russell was a hunter, and a lover of horses and devoted his leisure hours to such sports; but some years ago through his association with flower-loving friends he became interested in flowers and in his garden grow the choicest Peonies, Gladioli, Iris, flowering shrubs and flowers of all kinds. He studied his flowers, the soil they required, their habits of growth, pollenation and reproduction from seed, so well, and cultivated so carefully, that his garden was the resort of flower lovers for all the country round and in the late days of May and the early days of June, when the Peonies were in bloom and the perfume of his flowering shrubs filled the air, or when his Gladioli were blooming, his garden was visited by many noted flower specialists.

❡ Oft he would steal away from his shop in the summer time to wander among his loved flowers to give them a little study or a needed care, or mayhap to visit the garden of some flower-loving friend.

All winter long he was planning his work for the coming season, studying catalogues, placing orders and planning anew the form of his garden.

Some weeks since he was injured by a horse which he was shoeing and was confined to his home for some days, but was reported as progressing well. On Sunday morning, Feb. 22, after shaving himself and carefully dressing, he asked for his floral catalogues. Mrs. Russell was aiding him to return to his couch when he collapsed and soon the silver cord was loosened, the golden bowl was broken and he passed from among the living to the Gardens of Paradise.

He was a member of the American Peony Society and a charter member of the recently organized American Iris Society. He was a Knight Templar and among his flower loving friends was Sir Knight William Hall Phipps who wrote the following poem in commemoration of his esteem of Mr. Russell and of the traits of character which developed like the bloom of flowers that he loved so well.

J. H. NEELEY.

IN MEMORIAM.

JAMES E. RUSSELL.

There was music in the anvil
When it rang with mighty blows
From the arm of corded sinews,
All the day to night's repose;
And the clanging iron did answer
With a song of tingling joy,
While the swinging hammer shaped it
For some useful new employ.

And his glowing face was lighted
With a welcome when you came
To hear the anvil ringing
While the sparks a-circle, flame.
Oft his kindly words were spoken
As he lay his hammer low,
And turned to swing the bellows
'Till the forge was all aglow.

When his daily toil was over,
In the sunny days of June,
He would wander in his garden
Where all nature was atune.
Where the Peony and the Lilac
Were the flowers that he chose
He had laid aside the hammer
For the beauty of the Rose.

He has laid aside the hammer
And the anvil rings no more
For the twilight shadows gather
And his labors now are o'er,
We will leave him in his garden
With his flowers to repose.
He has laid aside the hammer
For the ever blooming Rose.

—*William Hall Phipps.*

Northwestern Peony and Iris Society.

W. F. CHRISTMAN, *Secretary.*

The month of April to me has always been one of the most promising months of the year, for it is during this month that we generally get our first glimpse of budding life, birds that have returned to cheer us with their song and other manifestations of spring activities that always mean so much to the flower lover. As I gaze from my window, the stately Court House tower across the way is covered with frost that makes it appear as a huge snow pile, the sun is smiling with all its wondrous beauty upon mother earth and the heavy mantle of snow that has been in evidence all winter will soon be a memory. There is still fresh in our minds the recollections of wielding a snow shovel most energetically in order to make a passage-way to the streets where the snow plow has preceded us, but these thoughts melt away as we prepare our garden tools for the work that will soon be in full sway. We are still a little apprehensive that spring has really come to stay, for anyone familiar with the eccentricities of Minnesota's climate has only to live here for a season or two to fully satisfy themselves on this score. We are confident, however, that within a short period of time we shall greet the tender shoots of spring flowers as they venture forth to gladden our hearts and beautify our surroundings for another season.

With these early arrivals we know the Iris and the Peony will welcome us and we are again preparing a royal welcome for their first appearance. I wish each of our members would make it a point to make notes and study their varieties very carefully this spring so they will be able to make a complete report at the end of the blooming season. I still have a supply of Peony questionnaires that I will be pleased to furnish anyone interested. These blanks will be found very desirable in tabulating the worth of any variety you may possess and the information obtained should prove valuable both to yourself and the Society. A copy can be retained and the other forwarded to me for assembling them into a complete report that can be presented to our readers.

The new American Iris Society is now a reality and we will hear more of its activities from time to time.

Every member of the Northwestern Peony and Iris Society will be furnished in the near future with a copy of an article I have prepared on "Some of the newer Peonies." This article contains a list of something over fifty varieties of new seedling Peonies, and while some of them have been grown for a few years, they are but little known, while others on the list will appear for the first time on any list and are not yet obtainable due to the scarcity of stock. The varieties listed are all of American origination and included in the list will be found a wide variation in coloring and type of flower. From yellow to darkest maroon, from pure white through the various shades of pink and flesh and many of the intermediate colors and combinations of color, selections can be made from the list that will be representative of some of the very best Peonies grown. In compiling this list I must confess that I was agreeably surprised and pleased with the large number of new Peonies that have been produced during the past few years, and the list presented does not contain them all by any manner of means.

Forcing Dormant Twigs.

BY BERTHA BERBERT-HAMMOND.

[Written expressly for The Flower Grower.]

"The alder by the river
Shakes out her powd'ry curls
The willow buds in silver
For little boys and girls."

—Celia Taxter.

The pastime of "rushing the season" by forcing, for indoor decoration, dormant branches of fruit trees and twigs of flowering hardy shrubs is so fascinating that nature lovers should be familiar with the process. Those who have never experimented in this direction and who can obtain the material from the wealth of forest, field, orchard, or garden, may with little effort and no expense, have spring flowers long before the outdoor blooming time.

A ramble through the woods in quest of bundles of pussy willow, dogwood and branches of other flower-bearing trees and shrubs will afford much pleasure and also an excellent opportunity to study nature at close range at the time when the plant world is beginning to wake from its long winter's sleep, and when

"Roused from long and lonely hours
Under snow drifts chilly,
Every little buried bud,
Every wild flower of the wood,
Sings the dear Lord's praises."

—Lucy Larcom.

In cutting branches, great care should be exercised so as not to injure the trees and shrubs that give without stint of their treasures. The conservation of the forest should always be kept well in mind.

"In that beautiful, beautiful wood,
Whatever you pluck
Leave some for good luck.
Wherever you look and whatever you find
Leave something behind."

—Juliana Horatia Ewing.

From the orchard secure twigs of apple, plum and peach trees, and from the garden, branches of forsythia, flowering almond, flowering quince, and any other desirable shrubs that may be obtainable. Arrange the branches artistically, each variety separately, in jardinieres, tall wide mouthed Japanese urns or vases, which have been nearly filled with soft water. Put a lump or two of charcoal in each receptacle to help to keep the water in good condition and place the vases where the twigs will have a warm, sunny exposure.

In a short time the buds, responding to the effects of warmth and sunshine, will begin to swell and show active signs of bursting from their imprisonment. The length of time required to force bloom depends upon the variety of twigs selected and on the temperature of the room in which they are kept. They will naturally develop more rapidly in a warm, moist atmosphere. Blossoms of fruit trees, are rather slow in maturing, but the catkins of the willow and the golden bells of the forsythia develop with astonishing rapidity and are promptly followed by clusters of delicate green leaves; while at the base of the branches little white rootlets may be found projecting into the water in the vase. Thus in forcing some kinds of twigs, besides the pleasure afforded by the welcome blossoms that brought an advance breath of spring into the home, one may secure sturdy, well-rooted plants, that may be set out among the shrubbery.

Young Onions.

When the days have begun to lengthen,
And the wind blows warm from the south
    With a hint of spring,
    A curious sting
Seems to settle within my mouth.

And I long to see the earth blossom
With flowers—white, pink and red,
    And I want to pick,
    Where the plants grow thick,
A few from the green onion bed

I'll shed "glad rags" for the overalls,
And hasten to dig up the soil,
    And drop in the seed
    That will help to feed,
And reward me for all of my toil.

Some surely will think me a "rough-neck,"
And very plebeian, I fear,
    The love of my youth
    Still lingers, forsooth,
Young onions in spring of the year.

—Spring Poet.

Iris time in the garden of Mrs. William Porter Morgan at her home "Oaklee" (Tennessee.) Mrs. Morgan writes that this photograph was taken only sixteen months after planting.

One of our subscribers has suggested that only one thing is lacking to make THE FLOWER GROWER perfect and that is a bird department. While we have no intention of establishing a permanent bird department, yet next month we expect to print very complete information about the red bird referred to by Mr. Fryer in Wayside Ramblings last month.

Prize Offers Should be Divided.

There are doubtless many of our readers who will donate prizes for flower shows this year. Don't forget that such prizes should be sub-divided at least three times. Don't simply offer a prize for a certain thing, but offer a first prize, a second prize, and at least a third prize; if not a third and fourth. While the principles of sub-dividing prize offers are pretty well approved and understood by those most experienced at the flower shows, yet donors of prizes are inclined to stick to the old methods of only dividing into first and second, and comparatively few divide into three prizes or more. The object in sub-dividing is so apparent that we need not take space to explain it here.

There is no doubt but what the files of THE MODERN GLADIOLUS GROWER (4 volumes) and THE FLOWER GROWER contain more facts and information regarding the Gladiolus than all the other sources of information combined can furnish. This should make the bound volumes which we are offering in our advertising department valuable to Gladiolus growers.

My Two Gardens.

[Written expressly for The Flower Grower.]

BY T. DABNEY MARSHALL—(Mississippi.)

EACH YEAR I make two gardens; a real garden and a garden of dreams. I begin on my real garden just as soon as the brown earth flashes with the Daffodil's first gold and I work in it and on it, until the winter's withering winds have bitten and blasted the Dahlia's last lingering bloom. This real garden I make with hoes and with hope, with perspiration and expectation, with muscles that strain and limbs that ache. It is at once a despair and a delight, a sorrow and an exultation. For, sometimes the things in it grow and sometimes they do not. It teases, it worries, it intrigues but always entertains. It has all the lure of the gaming table and is as fascinating as craps or politics. For I never know what it is going to do. Some times the seeds come up and the flowers almost equal those gaudy things which bloom in the catalogues. Almost, for it is vain for a gardener to hope to equal those blooms which the printer makes with red and yellow ink. But at other times nothing will come up, and if it does, the cold gets it or the sun blights it, or it proves a banquet for beetles, a boarding house for bugs.

But that garden of dreams! It is *the* garden. It is an unalloyed delight, a joy for ever, a sunlit sky, that knows no cloud, that is never hidden by a night.

> "Why, in it
> E'en the Daisies are rose-scented,
> And the Rose herself has got
> Perfume which on earth is not."

In it we toil not, neither do we spade, yet Solomon in all his glory was not arrayed like its borders and its beds. There all the seeds germinate, all the bulbs "climb to a soul in leaves and flowers." There the suns never scorch and blister, the rains do not ruin and rend. It knows not the fangs of fungus and has not heard of rusts and rots.

Its like does not exist on land or sea, but it grows eternally in the wistful hearts of all lovers of flowers. Its duplicate, or rather its archetype is found in some far world belonging to those planetary systems where, as astronomers and ouija boards tell us, multiple suns glow with purple and pearl, where shafts of crimson and gold flash in ever changing skies, where falls not "the least white star of snow," where cool airs temper the lips of the light before they kiss too eagerly the flowerets' tender cheeks. It is ever a-flash with nectared blooms and a-gleam with the wings of butterflies, that are not born of worms and caterpillars which canker and corrode, but which somehow come into existence out of nothing, like a star which the creating words of a God speak into being. Its every air is musical with the song of birds, that sing but not eat.

The making of this garden is so simple. For it is built out of dreams and catalogues alone. All spring and summer we have been collecting piles and piles of these wonderful books. We cannot do with one or two alone, but must have dozens, for does not each firm sell better plants than the other? When the winter sets in and we cannot do any real work, we get out the catalogues and commence making a list of the things we just must have. We turn the pages lovingly. We linger over the super illustration, we read, soul-drunken, the hyper descriptions, and in spite of past shattering experiences we believe everything, even the pictures.

Down goes this item and that. The list grows and grows, but in the fierce infatuation of the moment we give it small heed. All these wonders must be ours. We look out of the window to see if they are not already growing in our garden. At last the list is complete. But no; it is not. There are several hundred things which we have omitted. We add, we insert, we supplement, we amend. At last the list is done. We look it over. We are aghast. If we get all the things we have down, we will have to acquire the next lot, and we are afraid that even if we had the cash to purchase it, our neighbor might object to moving his house to make room for our Roses.

We draw a long, long sigh, for we must omit something. We cannot have them all. Some items must be eliminated. But which? Which? There is the trouble. Which? Then begins an endless debate. Then indeed are our heart strings strained, almost torn apart in the great struggle to choose and decide. That central round bed must have a Magnolia *conspicua*. Twenty-five years from now it will be a glory. It will prove the garden's climax and crown. How its blooms will give the winter's snows gleam for gleam, what nectars its waxen chalices hold for the hungry thirsting birds.

But if we have it, where are we going to plant that tree Peony, *La Lorraine*, which will be only one in town, which shall bloom so profusely under our fostering care that it will be more potent than the ouija board to lure the spirits of Victor Lemoine and other great hybridizers back from the beyond. Bertrand Farr himself shall journey Southward to see it and seeing, shall either die of envy or go out of the flower business in sheer despair. We reach for the final real true list and are about to put it down, but before we can do so, we hesitate, for do we not see in imagination the crimson fires which a fine Camelia *Japonica* shall build even under the freezing February sky and warm the winter with the summer's splendor?

And that trellis. It must be clasped by the arms of an Ipomea *Coerulia Coelistis*, which, when the weather is cloudy, all day long shall lift its cups of turquoise to all the wandering bees. But if we have it, where shall we put that Clematis *Paniculata*, which we said must

TSUGA CANADENSIS

(Common Hemlock or more properly Hemlock Spruce. Sometimes called Canadian Hemlock.)

We are indebted to *Horticulture*, Boston, for the above illustration of a hemlock hedge.

The common hemlock of the North Temperate Zone is an exceedingly graceful and ornamental evergreen which is suitable for use as a hedge, or as specimen trees or for massing. It is hardy in the far north and one of our most useful native evergreens. The hemlocks are not very particular to soil providing it contains a sufficient amount of moisture steadily maintained, nor is it difficult to transplant. While the wood as a lumber has been in common use as a building material, it is not very desirable, being known as the "Devil's Pine"; and yet good hemlock lumber is worth a good price now and difficult to secure. The bark is rich in tannin and used extensively for tanning leather.

be ours, ever since we saw one flashing its fragrant foam over a neighbor's fence. But if we get the Clematis, how about the Antigonum *Baldaschiuana*, which the Elliot Nursery Company assures us is the most wonderful climber on earth? Can we do without that? By no means. Life would not be worth living if one did not have at least one Antigonum. We would like a dozen but could get along with one.

Besides our imagination again gets on the job, and we see the awed expression on the faces of the visitors, when our tongue, after hours of private practice, rolls out the sonorous polysyllables without a trace of trouble. We almost hear one of the more cultured ladies say in sotto voice to another, "O yes, it is one of those Jewgo-Slave plants which President Wilson brought home from Corea when he put down the Boxer Revolution. I seen one in the Arnold Arboretum or among the glass flowers at Harvard college, I forget which."

So the endless debates go on and on. We just can't have them all and we just can't do without any of them. Take it from us, that neighbor will just have to move his house and sell us his lot. O why were we not consulted, when the universe was planned? Why can't we "grasp this sorry scheme of things entire, tear it to bits and then remould nearer to the heart's desire?" If we had only been consulted what improvements would we have made. Two, even three things, could occupy the same place at the same time in our up-to-date universe. Better still, they should melt and change into something else at the mere wave of the hand or the desire of the heart, like they do in the cinema. O yes, we are sure that as a universe planner we would have been a striking success. We may some times as a gardener, but we know we would have succeeded as a world-planner.

But look at that sun! How high it has climbed the purple stairs of the heavens. How it glows and gleams, like a shield, which an angel armorer has beaten out of unalloyed gold for the arm of some God, who rides forth to subdue a revolted world. See how the Spirit of the Spring has kissed the yellow Jasmine's million stars into bloom and kindled the redbud's rubied flame on the altar of the hills! Those are blooms not snows on the Dogwood's boughs. There has come already a fuller crimson on the robin's breast, and the Narcissi from a thousand trumpets peal a fanfare in answer to the challenge of the birds.

Away with catalogue and dream! Up with hoe and spade. Out into the warm sweet air, so good, so winey, we wonder Bryan don't prohibit it, to dig, to work, to plant, to translate the flowers of fancy into the flowers of fact.

Asclepias Tuberosa.

[*Written expressly for The Flower Grower.*]

Of native American floral treasures which are deservedly now becoming popular, this lovely one, with its beautiful flat topped clusters or umbels, is not yet appreciated as it ought to be. The reason is that it is next to impossible to buy plants that give genuinely red flowers. It has been my experience in buying nursery-grown plants that all of them would produce orange or yellow flowers. It has been claimed again and again that the Asclepias will not come true from seed; but, knowing how some nurseries sow all the seed collected, I decided to test out this theory.

After several collecting expeditions, covering three years, a collection of real vermilion–scarlet shades was accumulated. After several years waiting, seed was obtained from these plants. All have bloomed and out of over two hundred plants there have not been more than a half dozen that produced yellow or orange-colored flowers. The others are all of a bright orange-red and among these there are a dozen that have produced flowers of intense vermilion shades, accordingly I think that one theory has been exploded, namely that the Asclepias will not come true from seed; and another theory has been annihilated, namely, that this valuable perennial is hard to transplant. Such has not been my experience. The plants that I collected were mostly old specimens, some at least ten years old, and not much root was secured with the crown but every plant grew, and some of these roots lay around until they had commenced to decay.

Ten years study of the Asclepias has convinced me that this superb wild plant has great possibilities. It would be possible to originate early and late varieties, and, if a system of careful seed selection from the brightest red–flowering plants should be kept up long enough, in time a race of such intense scarlet shades would be produced, that this perennial would be largely used as a substitute for Geraniums, though it grows a little taller.

The Asclepias is of the same nature as the Peony. It has a long life and can take care of itself better. In fact, it can hold its own without any attention whatever. It would be a waste of time to plant the Asclepias in heavy soil however, for it will freeze out. It is never found growing wild in heavy soil; but a heavy soil would not be a deterrent to an enthusiast. A hole or trench could be excavated, about three feet deep and wide, and filled with sandy soil, the chances are that then the plants would prove hardy.

H. W. Groschner.

Tribulations of a Glad Grower's Wife.

[*Written expressly for The Flower Grower.*]

In last month's Flower Grower my (usually) good husband chose to tell some of my experiences in connection with the Gladiolus business but he did not tell all, so I shall have to write a sequel and tell some more.

There is really no starting point, so far as the calendar is concerned, in the tribulations of the Glad grower's wife, for no sooner is one crop harvested than plans are begun for the next one.

So there is checking of stocks and determining of additional needs, studying of descriptions and choosing of sorts, and while this is going on the Glad Man may almost be considered as being in some other world, so absorbed is he in mighty meditation. One might think the fate of nations depended on the result of these deliberations. Meanwhile, the partner of his joys and sorrows may sit and sew in silence.

Not infrequently, however, she is called into conference, and her opinion solicited on the respective merits of varieties competing for favor. But no wife likes to hear her husband sing the praises of *Mrs. King* or *Mrs. Pendleton*, or admire the beauty of *Mrs. Watt* or *Mrs. Norton*, or discourse on the charms of *Evelyn Kirtland* or *Flora* or *Louise* or *Catherine* or even *Myrtle*, (with whom I made my start, he says), when her own name is Mary Elizabeth.

I have even known that husband of mine to carry his deliberations past the midnight hour and then not leave the subject on his desk upon retiring, but when I thought him asleep he said aloud: "Now, I want ten thousand *Peace*"—and then I said, with gentleness but great firmness: "Yes, that's what I want—peace - and that's what I am going to have the rest of the night."

As Spring approaches, my husband retires to the packing room, where he gets so busy putting up orders that I abandon hope of getting him to meals in any way except after the fashion of the Dining Car—"First," "Second," and "Last call for Dinner."

Then comes planting time, and after another busy period, during which I am entertained by "Lame-back" laments, etc., there comes a couple of months during which I renew my acquaintance with friend husband at intervals between sessions of weeding and cultivating.

But when it's blossom time, and "Earth laughs in flowers," and every morning sees new Glad faces in the garden I can retain speaking acquaintance with him only by going out to him among the flowers, for it is there he will be found.

Here, I must confess, tribulations are forgotten in the enjoyment of the beauty of these lovely flowers, and the pleasure of knowing that my Glad Man is always ready to fill my arms with the choicest blooms of his garden, for Church or Club, social affairs or the sick, friends or personal fancy.

And then, in the midst of all this, he goes to the Society's Show, and comes home to rave about the beautiful displays and the wonderful seedlings and what I have missed by not going with him as he wanted me to do, until I determine that I shall go with him next year, so I too, may join in the talk, and speak of the *Prince of Wales* and *Le Marechal Foch* as one would of intimate personal acquaintances.

But when blossoms are gone and the harvest is over and the treasures are safely put away, then the vision of the beauty of the garden is still before us and in retrospect the joys are vastly greater than the tribulations.

And so it is that, with an ever increasing appreciation of the gladness in growing Glads, I feel that I am not indebted to my good husband in the little matter he told about. I mean, the bulbs he bought at my direction or for my account.

For did I not permit him to plant them, and have the pleasure of cultivating them, and did I not let him take unmeasured delight in the loveliness of their bloom, and allow him the satisfaction of harvesting them? Then has he not been fully repaid?

Mrs. C. R. Hinkle.

American Gladiolus Society.

PRELIMINARY PRIZE LIST.

The following are the prize offers that have been sent in thus far. The offers should be more numerous, and the Secretary would urge that all who wish to support the Show send in their offers at once, so that all of the additional offers can be published in the next issue. If the purpose is to stimulate competition, it is essential that prize offers be announced in advance of the planting season so that exhibitors can make plans. We ought to have more prizes for decorative work in which Gladioli are used. Send your offer at once to the Secretary.

OPEN CLASSES.

H. E. Meader, Dover, N. H.

Best 6 spikes *Lilywhite*. First prize $5; second prize, $3; third prize, $2.

W. Atlee Burpee & Co., Philadelphia, Penna.

Largest and best display, number varieties, quality and staging considered. Burpee Cup valued at $25. The winner taking this cup the third time to hold it permanently.

Arthur A. Kirchhoff, Pembroke, N.Y.

Best 6 spikes *General Pershing*. First prize, Silver Medal; second prize, Bronze Medal.

Best 6 spikes *Gloxinia*. First prize, $4; second prize, $3.

Best 3 spikes *Professor A. C. Beal*. First prize, $3; second prize, $2.

W. E. Fryer, Mantorville, Minn.

Best 10 spikes, *Mrs. W. E. Fryer*. First prize, 100 corms of that variety; second prize, 50 corms same.

C. Zeestraten, Bemus Point, N. Y.

Most artistically arranged vase or center piece of not less than 50 spikes of Gladiolus Primulinus. First prize, $10; second prize, $5.

Tait Brothers Company, Brunswick, Ga.

Best 3 spikes Seedling never before shown. First prize, $5; second prize, $3.

NON-COMMERCIAL CLASSES.

T. A. Havemeyer, New York, N. Y.

Best vase 10 spikes *Primulinus Hybrids*, Orange. First prize, $5; second prize, $3.

Best vase 10 spikes *Primulinus Hybrids*, Yellow. First prize, $5; second prize, $3.

Best vase 10 spikes *Primulinus Hybrids*, any other color. First prize, $5; second prize, $3.

Arthur A. Kirchhoff, Pembroke, N. Y.

Best 6 spikes *General Pershing*. First prize, cut-glass vase, value $10; second prize, $5, cash.

Best 6 spikes *Prof. A. C. Beal*. First prize, $2; second prize, $1.

Best 6 spikes *Gloxinia*. First prize, $3; second prize, $2.

W. E. Fryer, Mantorville, Minn.

Best 10 spikes *Mrs. W. E. Fryer*. First prize, stock to the value of $5; second prize, same for $4; third prize same for $3. The stock to be selected from his catalogue.

Carter's Tested Seeds, Boston, Mass.

Best 3 vases of white, deep pink and red Gladioli, each containing 12 spikes of bloom. First prize, $5; second prize $3.

Henry F. Michell Co., Philadelphia, Penna.

Largest and best display. First prize, Michell Silver Medal; second prize, Michell Bronze Medal.

Tait Brothers Company, Brunswick, Ga.

Best 5 spikes *Anna Eberius*. First prize, $5; second prize, $3.

Objection having been made against registering the varieties, *Conspicuous* and *White America*, the same are hereby withdrawn pending further investigation by the committee.

A. C. Beal, Chairman.

The frost is out of the ground earlier than usual following a very severe winter.

Digging Bulblet Grown Gladiolus Corms.

[*Written expressly for The Flower Grower.*]

An article on the digging of Gladiolus bulblet stock might seem quite out of place at this time, were it not for the fact that the method of planting has much to do with the ease, or otherwise, of digging.

To harvest the crop easily we should plant them with that end in view. We sow our bulblets very thickly in the drill, all touching each other in mass, about three inches in width in the row, so, when they have made their growth the bulbs and roots will hold together when lifted at harvest time.

Before planting, the ground is leveled smoothly with a garden rake, a line is run across the patch and drills made with a hand wheel plow which assures an even bottom in the furrow. This even bottom is quite essential, as, with ups and downs eliminated, at digging time an experienced man can judge where to thrust his trowel, so as to cut close to the roots of the little bulbs without taking up too much extra dirt to be sifted out.

Our bulblets are planted in rows 16 to 18 in. apart, and we keep a wheel hoe and cultivator running through the season. When sowing, to keep the bulblets from scattering over the sides of the drill, we take a double handful at a time and run them over the junction of the fingertips into the row, with a smooth flowing motion which will plant a yard or so of row at a time and lay them very evenly. A little extra time spent in careful planting is a good investment and saves much time and loss later.

When digging we use a spade or spade fork, starting three or four inches away from the row, inserting the tool far enough to be well below the roots then pry or loosen gently and repeat along the row.

After loosening, a broad curved trowel is shoved under a short section of row, the tops are seized, and with both hands lifting at once takes out a good bunch of bulbs. A proper amount of shaking will dispose of the surplus earth; practice will determine the handling so as not to shake the bulblets off with the dirt.

If the stock is of exceptional value, we lift directly from the row into a fine meshed sieve in order to insure getting every bulblet. This method, of course, takes more time but in some cases bulblets of rare varieties and choice seedlings are often of untold worth, and authentic instances are known, where $50, $75, and even $100, have been refused for single bulbs. The possibilities wrapped within some varieties are tremendous; wonderful varieties which have popularized the Gladiolus all over the world, all started from the tiniest of beginnings.

I am getting away from my subject, to resume: After digging, the stock is taken to the dry-house which is a building with windows on all sides where the bulbs are exposed to currents of air on all fair days. In case of an exceptionally wet fall such as we have experienced in 1919, a battery of oil heaters supplements the drying process. If bulbs are placed in permanent storage, in an imperfectly cured state, they will sometimes mold which, though it may not hurt the vitality of the bulb, it most certainly injures the appearance.

Digging small stock is quite slow at best, and often tedious, but there are compensations. Following a cool night with maybe light frost, a clear sunny day in the field, with leaves falling, and the earthy smell in the air, it is not a hardship to be out of doors.

And the examination of the different lots as they come to light, the cheerful feeling that comes over one as the favorite sorts turn out plump and covered with increase, as they mostly do, makes a feeling that it is all well worth while.

H. E. Meader.

Catalogues and Price Lists.

The Somerhousen Dahlia Gardens, Chestnut Hill, Philadelphia, Pa.—1920 catalogue of Dahlias with interesting cultural directions. A selected list with exceptionally complete description.

C. R. Hinkle, St. Joseph, Mich.—An artistic retail catalogue of a selected list of Gladioli. The best garden sorts and some of the novelties and recent introductions. Also Dahlias.

J. K. Rugowski Seed Co., Inc., Manitowoc, Wis.—Spring 1920 catalogue of seeds and flower stocks. Special attention given to a selected list of flower seeds. Also Gladioli, Cannas, Peonies, etc.

B. Hammond Tracy, Inc., Cedar Acres Gladioli, Wenham, Mass.—32 page catalogue and price list and color illustrations and with excellent descriptions. Some unusual varieties are listed.

B. Hammond Tracy, Inc., Cedar Acres Dahlias, Wenham, Mass.—8 page catalogue and price list arranged in classes.

Carlson Dahlia Gardens, Boulder, Colo.—Price list of Dahlias with good descriptions and prices by the dozen and hundred.

F. W. Carlson, 2526 Fourth St., Boulder, Colo.—Retail list of Dahlias, divided into classes.

N. A. Miller, P. O. Box 4125, Portland, Ore.—An extra nice catalogue of "Miller's Exquisite Dahlias." An especially complete list of varieties are listed with good descriptions.

J. K. Alexander, "The Dahlia King," East Bridgewater, Mass.—Wholesale trade list fall 1919—spring 1920. Also Gladioli, Irises, etc.

J. K. Alexander, "The Dahlia King," 547-559 Central St., East Bridgewater, Mass.—Cultural guide and catalogue for 1920. 64 pages and cover. Also Gladioli, Peonies, Irises, Cannas, hardy perennials, Phloxes, etc. Especially well illustrated.

Melrose Bulb Importing Co., Thos. Cogger, Mgr., Melrose, Mass.—1920 list of rare Gladioli.

J. C. Grossman and Wife, Wolcottville, Ind., R. D. No. 2.—1920 retail price list of Gladioli. The Kunderd varieties are especially represented.

Alt F. Clark, The Bungalow Gardens, Netcong, N. J.—Wholesale trade list of Dahlias for florists, seedsmen, etc. Especially well classified, and an unusual number of choice varieties.

The American Iris Society is, for a young organization, showing great activity. We look for some very important results to be accomplished by this organization. Those interested should affiliate themselves at once with the American Iris Society.

We learn that Arthur A. Kirchhoff, Pembroke, N. Y., has purchased from W. E. Kirchhoff Co., of the same place, the entire stock of Gladiolus varieties, *General Pershing*, *Gloxinia* and *Prof. A. C. Beal*, and that he will fill all orders for these varieties in future.

Queries and Answers Department.

"All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication."

Hauling Out Manure.

To the Editor:—

I would like to know which way is the best to put manure on the land, to haul it direct from the stable on the land, or let it rot up in the barnyard? I have noticed people putting on the land from the stables, and it seemed so strawy that much of it blew off before one was ready to plow it under. W. J. B. (Pennsylvania.)

Answer:—Other things being equal, we think this is largely a labor question. Manure never contains more plant food than the day it is dropped. There is usually more or less of a loss from it when left in the barnyard. In some cases this will be a heavy loss from drainage or fermentation. In other cases the manure is well cared for on a concrete floor under shelter, and there is little loss. Of course, most of the manure is made during the Winter, when there is not so much to do. If it can be hauled out and spread day by day the work is finished by Spring, so that when the ground is fit plowing and seeding may begin at once. If the manure is kept in the barnyard until Spring the job of hauling it out interferes with plowing at a time when labor is worth most. That is what we mean by saying that it is really a labor question. On fairly level land in sod, there will not be much loss if the manure is spread on the ground day by day. Such loss will be but little more than would occur in the barnyard, as the manure is usually piled there. In most of the dairy districts we see farmers hauling manure every day in Winter, and often spreading it right on the snow. As a rule, the plan followed in any progressive section by the majority of farmers is quite sure to be right. Of course, a market gardener may prefer to use well-fermented and fine manure. In that case it will pay him better to pile or compost the manure, and let it thoroughly decay before hauling it out.—*Rural New Yorker*.

Peeling and Soaking Gladiolus Cormels before Planting.

To the Editor:—

Should choice cormels be peeled before or after they are soaked in warm water? A. F. A.

Answer:—If you peel cormels before planting it will not be necessary to soak them. The soaking is to soften the shell as well as to start the sprout. They should be peeled only just before planting as they dry out quickly if exposed to the air for any length of time. A day or two will not matter if kept in a cool place, but they should not be peeled, for instance, in the winter and stored until planting time in the spring.

Dividing Peony Roots.

To the Editor:—

Can Peony roots be made to grow from root cuttings, or from whole roots that have no buds? I have been transplanting some that have large clusters of roots about an inch in diameter, with a small neck joining other parts, shaped much like a carrot, but they have no buds. Will these roots having no buds, if separated and planted in good soil, grow? E. A. A.

Answer:—Yes, of the variety *Officinalis*, though the break will not be as rapid as with the root that has an eye. With the finer varieties, as *Festiva Maxima*, and others of this class, an eye is necessary, though it will be all right to plant the root without an eye. These will probably lie in the ground and sprout the second season. The roots can be cut up into as many pieces as there are eyes, if planted in the Fall, but if you want plants that will flower profusely a few years after planting, the divisions should not be too small.—E. J. W. in *Rural New Yorker*.

Narcissus Not Blooming.

To the Editor:

Can you please tell me why my Narcissus does not bloom? It has been frozen quite a few times.

Hazel Simmons,
(Idaho.)

Answer:—Old clumps of Narcissus often fail to bloom because the bulbs become too deeply imbedded in the soil. The new bulbs are formed beneath the old ones, and thus from year to year the depth is increased until it is found that flowers no longer develop. We, too, often see in old gardens groups of Daffodils or Narcissus which produce only foliage or but an occasional flower. Dig up such a clump and you will find the bulbs a foot to eighteen inches below the surface and so compacted by growth that there is no room for expansion. The bulbs multiply rapidly by offsets which, as stated, are produced from the base of the parent bulb. Such clumps should be dug up in August or early in September and reset, placing bulbs six inches apart, and not more than five inches deep. Soon they will again become blooming delights. The soil should be well drained, strong and rich.—*Park's Floral Magazine*.

Names of Spanish Irises Wanted.

To the Editor:—

Am growing Spanish Irises for the cut flower trade. Can you or some of your readers recommend varieties of the Iris that are good and profitable for this purpose, and not too expensive for the roots? H. C. S.

Will not some of our readers please give their ideas on this subject?—Editor.

CLASSIFIED ADVERTISING.

Five lines (about 40 words) $1.00 per insertion. Additional lines 15c. each.

DAHLIAS.

CHOICE DAHLIAS—Standard, free-blooming varieties—Wm. Agnew, Golden West, Robt. Broomfield, Adm. Dewey, Oban, and others.

Strong tubers, my selection, good assortment, unlabelled. Ten for $1, postpaid. Same varieties labelled, seven for $1, postpaid. Mrs. E. F. Morris, Harlan, Ia. R. No. 6.

DAHLIAS—Collection of superior quality. Dahlia bulbs, selected from list containing such desirable varieties as Golden Gate, Kalif, Yellow Colosse and Pr. Juliana. Twelve bulbs for $2.50, postpaid. Your selection if desired (write for list). Minnetonka Nursery, Wayzata, Minn.

HAND pollinated Dahlia Seed, from best varieties, selected mixture $1 a packet.
Alt F. Clark, Netcong, N. J.

TO NEW CUSTOMERS: One each Dahlias, Souv. Douzon, giant red, dec.; Marie Doucett, pink and white Cactus; Golden Gate Bronze Cactus; Golden West, very fine yellow, dec.; H. Budde, long stemmed red Peony; J. Charmett, large rose-pink, dec.; Rhiengau, fine red hyb-cactus, for $2; 300 others, domestic and imported. Catalogue. Trade List.
Carlson Dahlia Gardens, Boulder, Colo.

DAHLIAS—Divided field grown roots Large stocks and a large collection of the best varieties Write for special trade prices.
N A. Hallauer, Ontario, N.Y.

DAHLIAS—CORRIE—A recent desirable introduction; decorative type; long stiff stems, profuse bloomer; heliotrope, suffused pink. Divisions $1. Phideas; Peony. Early free bloomer, long stems; salmon pink, 50 cents. Simplicity-Peony-Cactus-soft lilac rose, long, stiff stems; good cut flower, keeps well, $1. Two hundred other varieties. Catalogue on application. W. J. Tubbs, Elkhorn, Wis.

DAHLIAS—MANY CHOICE KINDS—Special introductory prices. Three fine varieties, one of each, the collection, $1 postage prepaid, Frau G. Scheiff, Marguerite Bouchon, and Prince de Bulgarie. Catalogue upon application. Doty Dahlia Farm,
A. C. Doty, Silver Creek, N. Y.

BULBS grown in the West are best for the East. Full of Pep. Pride of Calif., grandest red cut flower to date, $1.50; Golden West, new, finest yellow-bronze cactus for cut, 60c. Both, to new customers, $1.75. Geo. Walters, 6 to 10 inch salmon hy-cactus, $1.50. Springfield, blooms like Lonsdale. Glowing Amaranth-red cactus, 50c. Frau G. Schieff, Hy-cactus. Bronze, red and salmon, 65c., both $1. The three, $2.25. Catalog. Trade list. Carlson Dahlia Gardens, Boulder, Colo.

GLADIOLI

AMERICA, Empress of India, Glory of Holland, Halley, Mrs. Francis King and Niagara, four of each by parcel post prepaid for $1. Or 50c. per doz.

Golden King, Kunderdi Glory, Panama, Peace, Schwaben and Mrs. Watt, three of each, postage prepaid, for $1.25. Or $1 per dozen.

All of above first size corms. Both collections for $2 prepaid. James L. Stoddard, Palmyra, N.Y.

"ATTENTION"—We are allotting space to grow bulbs for the 1921 trade, write us and arrange for variety and quantity to be delivered this fall, we will quote prices for next season. East Hartford Gladiolus Co., 65 Olmsted St., East Hartford, Conn., E. M. Smith, Pres. & Mgr.

BULBLETS—1000 lots, 50c., postpaid, Schwaben, Golden King, Wine King, Intensity, Halley, Independence, America, Mrs. Francis King, Velvet King and Primulinus.
Arthur C. Perrin, 1112-E-18th St., N.,
Portland, Oregon.

AMERICA, No. 1, $30; No. 2, $25; No. 3, $20. Panama, No. 1, $40; America and King mixed, No. 1, $20. Mixed, 1 in. to 2 in. $12. Baron Hulot and Red mixed, $15. Pride of Goshen, No. 1, $80, No. 2, $60. All per 1000. Flowerfarm, Fort Atkinson, Wis.

FOR SALE—150 mixture named varieties, 100 small, 1 pt. bbs. $4. 200 Kunderd's Primulinus, $4. 100 mixed Primulinus 600 ½-1, $4. Lot $15. Send for retail list of very choice varieties, Prince of Wales, La Luna, Hazel Harvey, Kirtland, etc. The 3 reliables, Niagara, War, Peace, 1 each, 25c., 6 each, $1.25.
E. M. Sanford, Madison, New Jersey.

EAST HARTFORD GLADIOLUS Co., Retail business is booming. Our 1920 catalogue is out. Order early so as not to be disappointed. We have several thousand America to dispose of. E. M. Smith, Pres. & Mgr., 65 Olmsted St., East Hartford, Conn.

CRACKERJACK—A gorgeous Gladiolus. Large, richly shaded velvety dark red blooms; throat spotted yellow and maroon. Twelve blooming bulbs 50c. postpaid. Send for retail catalogue of Gladioli.
Howard M. Gillet, Box F, Lebanon Springs, N.Y.

A SURPLUS of over $625 worth of fine Gladiolus bulbs for $500 cash—600 Mrs. Watt, No. 1, at $4 per hun.; 400 Columbia, No, 1, at $3 per H.; 1500 Jessie, No. 1, at $3 per hun., $28 per M.; 1300 Independence, No. 1, at $3 per hun., $28 per M.; America mixed with Independence, 2000 No. 1 at $18 per M.; 2600 No. 2 at $16 per M.; 5900 No. 3 at $14 per M.; 6000 No. 4 at $10 per M.; 7000 No. 5 at $7 per M.; 12,250 No. 6 at $4 per M. A good all color florist mixture—1800 No. 1 at $16 per M.; 1100 No. 2 at $14 per M.; 1500 No. 3 at $12 per M.; 900 No. 4 at $8 per M.; 2000 No. 5 at $6 per M.; 7400 No. 6 at $3.50 per M.; 5 bu. mixed bulblets at $18 per bu. Any amount at prices quoted or entire lot, $500 cash.
Whiteley's Gladiolus Gardens,
500 Mt. Hope Ave., E.,
Lansing, Mich.

FIRST SIZE Gladiolus Nigricans. Best very dark maroon, strong grower, large flower, at $1 per doz., $6 per hundred, $40 per thousand. Niagara, Panama, Crackerjack, at 85c. per doz., $5 per hundred. Many other sorts at low prices, also Dahlias at $1.50 per doz., varieties my selection. Hardy Phlox, Iris, and other hardy plants. E. R. Macomber, 44 Leonard St., Woodfords, Me.

WE are completely sold out on all our varieties *for this season* and have not a bulb left to offer.
The Decorah Gladiolus Gardens, Decorah, Iowa.

GLADIOLUS BULBS—Largest size—America, Augusta, Mrs. Francis King, Empress of India, Glory of Holland, 50c. doz.; Baron Hulot, Niagara, Peace, Lily Lehmann, 75c. doz.; Panama, Pink Perfection, Schwaben, Mrs. Watt, Loveliness, Mrs. Frank Pendleton, War, $1 doz.—Special Offer—For $1 we will send 1 bulb of each 16 varieties, postpaid, and include pkt. of New Quilled Giant Zinnias; pkt. Invincible mixed Asters; pkt. of 50 varieties of choice flower seeds, and booklet, Your Flower Garden.
Rose Side Gardens, Warwick, Pa.

CRACKERJACK—1 inch up, $2 per 100; ¾ inch up, $1.75 per 100, postage included; 50 of a size at the same rate. Liberal discount on larger lots.
Thomas M. Proctor, Wrentham, Mass.

IRISES

IRIS—A fine stock of Pallida Dalmatica, P. Australis, Juniata, Lohengrin and many others. Prices attractive. Send for list.
W. J. Engle & Son,
R. D. No. 8, Dayton, Ohio.

ROSE ACRE FARM IRIS—
Intermediate Iris:—Gerda, Halfdan, Helge, Ingeborg Walhalla.
Iris Pumila Hybrids:- Floribunda, Scheekuppe.
New German Iris:—Berchata, Fro, Gajus, King, Lohengrin, Mithras, Nibelunger, Princess Victoria Louise, Rhein Nixe, Pallida Dalmatica, Dr. Bernica, Maori King, Mme. Chereau, Spectabilis, Surprise. Thirty other named varieties not labeled.
Any 6 of the above named varieties and 6 other named varieties not labeled, for $1, or will exchange for named Gladiolus.
Frank Wentink, Rose Acre Farm,
Salisbury Mills, N. Y.

HERE'S THE IRIS bargain you are waiting for. Twenty-five finest mixed, at least six sorts, no poor ones, and including Giant Pallida, for $1.50 prepaid. April delivery. P. L. Ward, Plantsman, Hillsdale, Mich.

MISCELLANEOUS

LONG'S IMPROVED GOLDEN BANTAM SWEET CORN. Colorado strain selected for size as well as other desirable qualities. Many ears have 10 to 12 rows. Beautiful, vital seed. Pkt. 10c, lb. 30c, prepaid. Bag weighed in. J. D. Long, the Decidedly Different Seedsman, Boulder, Colorado.

LANDSCAPE GARDENING—A practical course by mail. Colored illustrations. Beautify Home Grounds. Endorsed by leading Nurserymen and Florists. Write for Prospectus. American Landscape School, 2 N, Newark, N. Y.

LABELS—Patent, paper, trees, shrub or rose label. Colors: white, green, blue and salmon. Plain or printed. A cure for those afflicted with label troubles. Samples. Ohio Nursery Co., Elyria, Ohio.

TIGRIDIAS—Fine, healthy home grown bulbs, 35c. per doz.; $2.50 per hundred. Also a limited number Ismene Calathina, White Peruvian Lily, extra large blooming bulbs 20c. each, 3 for 50c.
Jos. A. Eibel, P. O. Box 268.
Lancaster, Pa.

DON'T forget the vegetable garden! See here, 12 early tomato, 12 late tomato, 24 early cabbage, 12 sweet pepper plants, regular value, 95c., for only 75c., prepaid. All are the finest sorts I know of. P. L. Ward, Plantsman, Hillsdale, Mich.

ASCLEPIAS TUBEROSA (Butterfly Flower.) Real red shades of this most brilliant of American perennials, two year 50c., three year, 75c. Send for my list.
H. W. Groschner, Napoleon, O.

GROW YOUR OWN SUGAR.—Finest Idaho grown sugar beet seed you ever saw. Oz. 10c, ¼ lb. 25c. prepaid. Complete instructions for growing the beets and making syrup and sugar, free. Mention FLOWER GROWER.
J. D. Long, Boulder, Colorado.

THE colors and varieties of Asters I grow are second to none and better than most. To convince you will send 50 mixed, or all one color, or six each of eight best sorts, prepaid—big, strong transplanted stock. Delivery latter part of May, but order now. If you grow your own, send 25c. for a packet of new and rare Asters, mixed, strictly fresh seed. Everything prepaid. P. L. Ward, Plantsman, Hillsdale, Mich.

FRANK R. SAWYER
GLADIOLI
LARGE HOME GROWN BULBS
FAIROAK FARM
MANSFIELD - - - - MASS.

PEONY ROOTS

Will accept wholesale and retail orders, for next Fall delivery, until May first at same prices as in years past.

J. F. MUNSELL,
ASHTABULA, - - - - OHIO

If You Want The Finest DAHLIAS
SEND FOR OUR CATALOGUE
Somerhousen Dahlia Gardens
Chestnut Hill, Phila., Pa.

GLADIOLI WITHOUT REGRETS
PLANT BEAUTIFUL SORTS YOU WILL BE PROUD OF WHEN THEY BLOOM.
My 1920 catalog offers them. A copy free.
W. L. CRISSEY
Gladiolus Farm, Boring, Ore.

CHOICE BULBS

that you can rely upon; 1st size, priced per 100
Sulphur Queen & Mrs. F. King, $3.; Halley, $3.50; Empress of India, $4; Schwaben, $5. Bulblets of Mrs. F. King, $1 per qt. Price list on request.

ALFRED OESTERLING
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AND OTHER CHOICE GLADIOLI

HOMER F. CHASE
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George J. Joerg
Wholesale Grower of
GLADIOLI

60 Varieties. All sizes.

NEW HYDE PARK, L. I., N. Y.

DAHLIAS $1 a DOZEN

"Get Acquainted" offers from "The Dahliast." (A) Complete collection of 12 choice tubers, no two alike, each labeled, my selection of several classes and colors, $1.00 - retail value about $2.00. Surplus stock—one tuber may be worth entire cost. (B) 2 doz. plump Dahlias, all different, labeled true to name, $2.00.
One dozen, all different, either (C) Ball (D) Cactus (E) Decorative (F) Peony (G) Pompom or (H) Single, $1.00. Each labeled. My selection of colors. Or, standard cut-flower sorts, either all (I) White (J) Yellow (K) Pink or all (L) Red, for $1 a dozen. My selection varieties. (M) Mixed and unlabeled, 24 Dahlias for $1. (N) Your selection of any six $1 collections for $5. (O) Any thirteen $1 collections (156 tubers) $10. Everything sent PREPAID. Wholesale Dahlia List with Color Key FREE upon request.

ALT. F. CLARK, "The Dahliast"
NETCONG, NEW JERSEY

Gladiolus for Sale
1st and 2nd Sizes
Several hundred each, 'CRACKERJACK, red, and AMERICA, light pink. Special price on Crackerjack. Write for prices.
Jas. H. Smith, Gladiolus Grower, Milan, O.

SURPLUS STOCK
Scarsdale, Independence, Jane Dieulafoy, Annie Wigman, War and a few others for sale. Write for prices.
FRANKLIN BENNER
508 Northwestern Bank Bld'g
Minneapolis - - - Minnesota

Derby Gardens Gladioli
LIST ON APPLICATION.
WHOLESALE. RETAIL.
John H. Umpleby, Lake View, N.Y.

STILL A CHANCE to Get the Leaders...

	No. 1	Not 2	No. 3	No. 4	No. 5	No. 6	Bulblets Per 1000
Crimson Glow	50.00	45.00	Sold	Sold	Sold	12.00	Sold
Dominion (Red Emp.)	12.00	10.00	9.00	8.00	7.00	5.00	Sold
Prince of Wales	Sold	6.50	5.50	4.50	3.00	2.50	Sold
Mary Fennell	8.50	6.50	5.50	4.50	Sold	Sold	Sold
Loveliness	Sold	Sold	5.50	4.50	3.00	2.00	2.00
Schwaben	Sold	Sold	3.50	2.50	2.00	1.50	2.00
Pink Perfection	Sold	Sold	Sold	3.00	2.50	2.00	Sold
Panama	Sold	Sold	Sold	2.50	2.00	1.50	Sold

Priced per 100. 50 at same rate.

L. S. KNECHTEL, Athol, Mass.

Metzner's Gladiolus
An Original California Strain.
Our Exhibit awarded the
Grand Prize
over all competitors at P. P. I. E.
Selected types priced
15c. to $25 per bulb.

Special Trial Offer:

To introduce our wonderful Gladiolus, we offer three special sets, all high class novelties, ONE BULB alone in each set worth full price asked. Strong bulbs, charges prepaid. Blooming size. Order any time until May 1st.

Flower Grower Set, 10 bulbs, **$1.00** per set.
Santa Clara Set, 10 bulbs, **$1.50** per set.
Mountain View Set, 10 bulbs, **$2.50** per set.

Do Not Overlook This Offer.

Metzner Floral Co.
MOUNTAIN VIEW
Santa Clara County, - Calif.

THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

Vol. VII
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FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
Entered as second-class matter March 31, 1914, at post office at Calcium, N.Y., under act of March 3, 1879.

PUBLISHED MONTHLY ON THE FIRST OF THE MONTH BY MADISON COOPER, CALCIUM, N. Y.
Subscription price: Three years, $2.00; One year, $1.00.

ASTERS---THEIR KINDS AND CARE.

[*Written expressly for The Flower Grower*]

BY PAUL L. WARD. (Michigan.)

GLADIOLUS—*BUTTERFLY*.

Originated by A. E. Kunderd. Produced by crossing *Kunderdi Glory* with Primulinus species. A strong growing, vigorous *Primulinus Hybrid* with a large flower. Pale salmon yellow with ruffled flowers.

PERHAPS MORE largely grown than any other annual, the Aster is known and loved in almost every garden plot in the country. The love of this flower has been exploited and much worthless and old seed is constantly on the market, which it is wise to avoid by buying only of reliable firms.

This flower has proved very pliable in the hands of the hybridizer and, although it has yielded almost countless types and colors, it has almost refused to produce a yellow bloom, though pale yellows are now offered. I was looking through a foreign catalogue the other day, size 8 x 11 inches, printed in small type, and there I found over seven pages of Asters listed, a line or two to a kind, and as high as twenty-two colors under a given type. American seedsmen rarely list over eight shades in a type and some as many as twelve types.

The outstanding types are the comet, late branching and earlies. Distinctive flowers of the same general type are often named and given a place of their own.

Queen of the Market is the recognized best first early and comes in pink, white, purple, lavender and crimson. Its flowers are full double, about two to three inches across and the plants are of branching habit. There is a fine strain of earlies known as Royals, with broad petals, which come soon after *Queen of the Market*, and these also are branching in habit.

James Vick's Sons of Rochester, N. Y., are Aster specialists and their most noteworthy contribution is the *Rochester Aster*. The first of these—they are all comet type—was a lavender pink and so outstanding in merit that it was adopted as the official flower of the city of Rochester. I have stood at the end of a row of this variety and looking the length of it saw no leaves—almost—simply a mass of lavender-pink bloom, the flowers all but touching the outer ground and flowers all the way up and over. This is not a tall sort. Later came other colors in this grand type, the later ones being deeper through the center than the original, and large every way. I might say right here that the widely advertised Astermum has not compared at all favorably with the Rochesters in my garden. They are wide and thin and show the center too easily and I do not predict much of a future for Astermums.

The Mikados and Cregos in all colors are splendid comet types, the Mikados being early. As I understand it, the Mikados are the parent stock of the Rochesters and a few firms wrongfully list Mikados as Rochesters.

The best lavender comet I have grown is *Pacific Beauty*, a sort not listed yet in retail catalogues. It is of the Rochester type, very large, fluffy and deep through the center. Comes from Oregon.

Enchantress, shell pink, is a beautiful thing, each plant making a bouquet as well arranged as could be done were the flowers cut. This is also true of all the Daybreak Asters.

Many types of late branching are listed, such as Carlson, Semples, Vicks, Invincible, etc., but the characteristics are long, clean stems, surmounted by dense globe-like flowers with regularly arranged petals. The most vigorous and best type for the amateur, as it rarely fails.

Lastly I want to mention *Heart of France.* I grew it first in 1919, clear at the back of the lot. It attracted attention from every passer-by, and many pronounced it the best Aster they had seen. In color it is red; red with a sheen; and when other red Asters are placed beside it, they pale by comparison. It is branching in habit, very productive and vigorous, flowers large, of the regular petal type.

Asters must be grown from seed to flower without a setback if full success is to be had. A freeze will not kill seedlings, but stunts them beyond recovery. Rich soil, but not freshly enriched is the prime requisite of growth. A little wood ashes in the soil before setting is advisable. Asters rarely do well in beds in the lawn. Give well dug soil and garden cultivation if possible. They will be a failure in the shade.

The black aster beetle which appears with the flowers is very destructive but can be quite easily controlled by knocking off into a can of kerosene once or twice a day until they disappear. The yellows, most dreaded of Aster diseases, has no cure. If your Aster plant turns yellow and the flowers are partially developed with no color, pull the plant and burn it. Never plant two years in succession on the same ground, nor *Queen of the Market* on the same ground for six intervening years. I quote the last from a large grower who tried to repeat in less than six years and always failed.

Cultural Instructions for Hardy Chrysanthemums.

Location—The later-flowering varieties should be planted in a sheltered location, where they will get the sun most of the day and yet be protected from the prevailing winds. It must be remembered that the soil close to foundations dries out rapidly; so the plants will need water occasionally. A mulch of grass clippings will help a great deal in keeping the soil from drying out.

Soil—Do not plant in stiff clay, or thin sandy soil. Dig a hole or trench about ten inches deep and twelve wide and fill it with any fair garden soil.

Pruning—Chrysanthemums are liable to make a rank growth in May and June and the stems or stalks should be cut back at least once, but not later then the first of July.

Winter Protection—The only protection that I give is to cut the tops off in late November or early December and lay these over the plants. Do not apply the protecting material too early. Some years it would be best to wait until after the middle of December, for a little freezing will harden them. All the protection that mums need is a light covering to merely shade them. Too much covering material will smother the plants. Do not use leaves; any porous material like hay or coarse straw is better.

Dividing—Plants should be divided every two or three years.

H. W. GROSCHNER.

Tulip-time.

BY BERTHA BERBERT-HAMMOND.

[*Written expressly for The Flower Grower.*]

" And first the Snowdrop's bells are seen,
Then close against the sheltering wall
The Tulip's horn of dusky green."
—*Oliver Wendell Holmes.*

So long as the aged miracle of the spring resurrection of plant-life touches a responsive cord in the human breast, early blooming flowers, whether wild or cultivated, will be more heartily welcomed and more generally appreciated than those that bloom later in the season.

Conspicuous among the favorite spring-blooming garden flowers are the radiant Tulips, whose gay and cheerful hues, after the long, sombre winter, bring such a pleasing ray of brightness into the colorless surroundings.

" As beauty is its own excuse for being," so the exceptional loveliness of Tulips is the chief reason for their lasting popularity. It would be difficult to imagine anything floral more exquisite than the artistic bedding effects produced in spring by the fall plantings of varieties carefully and skilfully selected as to harmony of color, and uniformity of size and time of blooming. Even some of the bizarre effects sometimes seen, command attention by their sheer gorgeousness and brilliancy.

" For brilliant tints to charm the eye
What plant can with the Tulip vie ?"

During Tulip-time enthusiastic admiration for the Tulip is quite universal. A hint of the old "Tulip craze" seems to pervade like a spring fever, and one can in a measure understand how during the historic "Tulip mania" which raged in Holland in the 17th century, otherwise staid communities went "mad" over choice varieties produced and risked their all in speculating in Tulip bulbs at inflated values, in the same reckless manner that some persons now speculate in watered stocks in Wall Street.

One may occasionally find a person who thinks that though—

" The Tulip is the gayest,
Most gorgeously drest
And loved by the sunlight
Above all the rest.
Too haughty is she
Of flowers the proudest,
In colors the loudest."
—*Miriam Clark Potter.*

But all Tulips are not flaunting in color. There are fine white varieties (*Albion Alba Maxima,* etc.) besides a choice of innumerable delicate tints, that cannot fail to please the most fastidious. Endowed with the unmistakable "ear marks" of good breeding, evident in stateliness of growth, beauty of flower and foliage, with a genealogy that has been traced back for hundreds of years, the aristocratic Tulip is entitled to a place of honor in every garden of any pretention.

In that charming book "Elizabeth and Her German Garden," the author expresses the sentiments of a Tulip enthusiast in the following words:

"I love Tulips better than any other spring flower; they are the embodiment of alert cheerfulness and tidy grace. * * * Their faint, delicate scent is refinement itself; and is there anything in the world more charming than the sprightly way they hold up their little faces to the sun? I have heard them called bold and flaunting, but to me they seem modest grace itself, only always on the alert to enjoy life as much as they can and not afraid of looking the sun or anything else above them in the face."

With the revival of the May flowering Tulips, a very desirable late blooming class is obtainable, and is likely to grow in popularity with amateurs as its merits become better known. Beginning with the gay, dwarf-growing *Duc Van Thol,* the earliest of Tulips, and following with varieties assuring a succession of bloom, it is a simple matter to prolong materially Tulip-time and have a mass of fine specimens in full bloom for Memorial Day.

The Old Home Garden, Back East.

BY SARAH A. PLEAS.

My garden was the favored haunt
Of butterflies and bees;
And song-birds, nesting all around
In bushes, vines and trees;
Our little children played therein
On sunny summer days,
Their merry laughter ringing out
Along the garden ways.

An Oriole's nest was hanging from
A low branch overhead,
Where the mother bird sat brooding on
The eggs that she had laid;
While jubilant with music rare,
High up within the tree,
The gayest of our songsters sang
Sweetly for her—and me.

Within that garden, wondrous fair,
My memory clearly sees,
With net in hand, collecting moths,
The student, Ellwood Pleas;
And as I muse that happy past,
My present lot I bless;—
An earthly paradise that's filled
With Heaven-sent happiness.

American Rose Society.

The following Rose has been accepted by the Rose registration committee of the American Rose Society, and unless objections are received in the Secretary's office within three weeks of this publication the registration will become permanent.

Name—*Red Columbia.*
Class—Hybrid Tea.
Parentage—*Sport of Columbia.*
Description—General characteristics of this variety are identical with Columbia except the color is a brilliant scarlet, and the petalage is not so full as Columbia. The color is similar to Hoosier Beauty.
Originator—Jos. H. Hill Co.

E. A. WHITE, Secretary.

The few failures with Gladioli are very largely attributable to shallow planting. Five to six inches is a pretty deep trench to dig. Use your measure.

Our Birds.

[*Written expressly for The Flower Grower.*]

The Cardinal Grosbeak, or Southern Redbird.

By { WILLIAM WATSON WOOLLEN.
MRS. WM. CRAWFORD.

The very interesting bird, concerning which Mr. Fryer writes, in the March issue, is without doubt the Cardinal Grosbeak, scientifically known as Cardinalis cardinalis. The bill of the adult male Cardinal is of a brilliant coralline color, very thick and powerful for breaking hard grain and seeds; chin, front and lores black; head is ornamented with a high, pointed crest which can be erected or flattened at the pleasure of the bird; iris of eye dark hazel; general color of the body a cardinal or brilliant red, darkest on the back, rump and tail. The adult female is not so large as the male. Her color above is light olive with a yellowish tinge on the head, and brownish yellow on the sides; the top of the crest, the wings and tail are nearly as red as those of the male; the chin, front and lores are light ash; breast and lower parts a reddish drab; bill, eyes and legs like those of the male; crest not so long.

The Cardinal is not a migrant. In this regard its history is unique and interesting. Originally it was a bird of the south. But gradually they have extended their range until now they are found in Iowa, Indiana, Southern New York and casually in Maine, Ontario, Southern Michigan and Minnesota and West to Kansas and Texas. Mr. Wells W. Cooke, the most eminent authority on bird migration, says that when the Cardinal has established itself in a certain locality that it will not depart from there further than ten miles during its life.

The Cardinal is a very useful bird and my favorite of all the birds. This morning (March 4th) before I had arisen from my bed I heard from the tree-top in the side yard the clear whistle of my Cardinal that has been with me for many, many years.

> "How oft our trust, most deep and true,
> Clings to some redbird's winter strain,
> Who knew unknowing why he knew,
> The long lost Spring would come again."

WILLIAM WATSON WOOLLEN.

The March number of THE FLOWER GROWER has arrived and among the many interesting notes is one from Willis E. Fryer regarding a red bird. This is doubtless the celebrated Southern Redbird or Cardinal Grosbeak. Reed says:

> "Noble in carriage, beautiful of plumage, amiable in disposition and excellent singers, are some of the qualifications of these large billed birds. They are Southern birds, rarely seen in Northern U. S. unless in cages, for large numbers of them are trapped for this purpose, a practice that is being stopped as rapidly as possible by enforcing the laws which protect them. They are hardy birds, often passing the winter in the northern part of their range when the ground is covered with snow. They frequent gardens, plantations and open woods, where they glean their food of seeds, berries, fruit and insects.
>
> Song—A loud, clear and lively warble; call, a low chip.
>
> Nest—A frail structure of twigs, in thickets or bushes.
>
> Eggs—Greenish blue with reddish brown spots.
>
> Range—*Resident* and breeding from the Gulf to New York and Iowa."

Mr. Fryer's family is very fortunate to have a pair of Cardinals winter with them.

"The Song of The Cardinal" by Gene Stratton-Porter is her finest production and well worth reading:

The female is described by Chapman thus:

> "Throat and region about the base of the bill, grayish black, crest, wings and tail a dull red, upper parts brownish ash; under parts buffy ocraceous, lighter on the breast and sometimes tinged with red."

The ones I have seen take on a greenish tinge in the winter. The "green" bird at Mantorville is the female no doubt.

As the head of a family, the Cardinal is exemplary; he is very attentive to the wants of his lovely iridescent mate; sings to her by the hour when nesting and is always on guard to protect her from danger. He is untiring in feeding the young and takes them out to get acquainted with the world while the female is sitting the second time.

We had a pair in this locality in the winter of 1915–16. The last day of the year they paid us a visit; made a breakfast on seeds and berries, flew into an apple tree near the window, displayed their beautiful plumage, whistled "good cheer! good cheer!" and were gone like a flash from the dying year.

A great sorrow had been ours during that year and the visit of the cheery red birds gave us courage to face the new year.

In this latitude it is as much a privilege to hear the song of the Cardinal as it is to attend grande opera. I consider it an event in my life.

In the summer of 1918 I visited my sister on a farm. We were on the porch knitting, for our boys were in France, when she suddenly lifted her finger and said, "The Cardinal!" From the woods near the house came such a burst of melody, such joyousness of life and its promises that we sat there spellbound and forgot for a time what was in progress overseas.

What a joy and delight and privilege it must be to have a pair make their home on the place.

We have many birds of interest. They like our flowers and the Bluejay often follows the new arrival (for he is a rascal) and by following him, we sometimes find a rare specimen he is trying to drive away.

In April and May I carry a copy of "Reed's Bird Guide; Land Birds East of the Rockies," in my pocket, while on my desk is a copy of Birds of Eastern North America by Frank M. Chapman. The dates of arrival and departure of migratory birds on page 15 has been a great help and pleasure and few birds ever miss their dates. Last year with a late spring all were on time but the Wren.

Birds and flowers go together. Enjoy the birds and furnish them with food and water. They will repay you many times. Watch the Orioles build and compare the behavior of the male with that of the Cardinal; talk to the Robin that follows you around for the angle worms you turn up in planting your flowers; take a look at the Indigo Bunting; follow a Scarlet Tanager until you can almost touch him; see the flock of Yellow Warblers eat the seeds from the hardy Coreopsis morning and evening; hear the *song* of the Cat-bird and forget his cat call, for he is our Northern mocking bird and his song is a delight; listen to the song of the Brown Thrasher as he perches on the topmost twig of the shade tree at twilight and you will forget your troubles and

> "The cares that infest the day
> Shall fold their tents like the Arabs
> And as silently steal away."

MRS. WM. CRAWFORD.

Fragrant Hardy Lilies.

[*Written expressly for The Flower Grower.*]

Considering the ease with which they are grown, and the gratifying results obtained, few hardy plants so well repay the flower lover as the fragrant *Lilium Auratum, Lilium Rubrum* and *Lilium Album.*

Perhaps the most satisfactory of these is the *Lilium Rubrum.* Practically all of the bulbs of this variety are imported from Japan, but of late years, owing to conditions incidental to the war, the number of bulbs reaching the United States has been much below normal.

These bulbs may be planted in spring or late in the fall, in loose, well drained soil in which has been added a little bone meal. Hardy lilies seem to thrive best when planted in front of low shrubbery or among perennials which shield their roots from the direct rays of the sun. They should be planted about five inches deep, and if the bulbs are dusted with powdered sulphur they will more readily resist the attacks of worms or fungi.

The *Lilium Rubrum* usually starts to bloom early in July, and as the buds do not open simultaneously, the blooming period extends over three to four weeks. One bulb will sometimes produce twelve of the large crimson-spotted blossoms, which fill the garden with their delightful fragrance.

H. S. TILLOTSON.

Although frost was out of the ground early this spring, planting has been delayed by cold and disagreeable weather, but we have a right to expect a mild season from now on.

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Growers are invited to contribute articles or notes over their own signatures, but the Editor reserves the right to reject anything which in his judgment is not conducive to the general welfare of the business.

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> "*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

Don't be an Unbalanced Nature Lover.

> Take not away the life you cannot give
> For all things have an equal right to live.
> —*Dryden.*

One of our subscribers recently suggested that just one more thing was necessary to make THE FLOWER GROWER perfect, and that was a bird department. This issue is somewhat of a bird number from the fact that not only have we some very complete information on the Cardinal Grosbeak, but the "Glad Philosopher" has something to say about birds this month also. These articles on birds are unusually well written, and contain valuable facts and will surely be appreciated by bird lovers. While it is not our intention to have a permanent bird department in THE FLOWER GROWER each month, yet when such interesting information as that which has come to hand this month is available, we will surely use it.

Flower lovers, generally speaking, are to a greater or less extent bird lovers for the reason that birds and flowers are quite intimately associated. Birds have their scheme in nature and it may easily be figured out that they are protective to the flowers. It is perhaps not strange that some bird lovers are cat haters, and we felt a little that way, too, when our favorite cat caught the humming birds which visited our garden at blooming time; but right here is where we would urge those who have a special favorite in some particular work of nature, not to dislike other works of nature.

For instance entomologists could perhaps be called bug and insect lovers, and if so possibly they should be bird haters because the birds destroy their particular favorites. The insect lover hating the bird and the bird lover hating the cat would be the natural corollary.

Nearly everything in nature is more or less of a warfare. It is the life history of practically every wild bird or animal that it meets a violent death. Bird lovers should not unreasonably and unmercifully condemn cats for their natural hunting instinct. While the birds perform a very useful work in conservation we must not forget the absolute necessity of cats. It is related that Belgium, since her cats were mostly killed during the war, has been overrun with rats and mice to an extent which has made a tremendous loss, and made life almost unendurable in many places.

We have the utmost respect for bird lovers. We are a bird lover ourself and would protect birds in every reasonable way. Although accustomed to the use of firearms and hunting from childhood, it is many years since we have used a gun to destroy bird life and our principles are opposed to the destruction of life of any kind. Everything in nature has its place and even cats have a much more important part in the scheme of civilized life than most people understand or appreciate. We own a cat which we absolutely know did more to help win the war than a number of people whom we know, and people who consider themselves pretty well civilized too. This cat protected grain foods against mice and rats and we still remember that grain foods were especially valuable during war time. A great poet said, "I would not enter on my list of friends the man who needlessly sets foot upon a worm." This expression and principle, nature lovers in general could well use as a motto. Animals, and especially domestic animals, are nearer to the human family in the scale of development than birds or any other forms of life. Animals are, therefore, entitled to the utmost consideration and respect by man.

Don't be an unbalanced nature lover. Endeavor to retain a balance between likes and dislikes in nature. Though we may prefer birds, why hate cats? Though we prefer bugs and insects, why hate birds? Each fulfills its particular purpose and function in the great scheme.

MADISON COOPER.

Memorial Trees.

Under the above title, Mrs. Hammond had something interesting to say in the May, 1919, issue of THE FLOWER GROWER. Memorial trees are becoming very popular and thousands of them will be planted this year. The planting of a tree for every soldier killed in the war, or every prominent citizen who rendered some important service during the war, is a very fitting testimonial to their patriotism.

Memorial trees may also be used to advantage as living monuments erected to the memory of personal friends or members of a family. The idea is a very beautiful one, and even more interesting than a memorial consisting of monuments of stone or metal. Growing trees will hold attention, and increase in interest and value each year, while a monument of stone or metal loses interest because of its unchanging sameness. Memorial trees also carry a lesson in arboriculture which many people might never learn without this opportunity.

Some of our subscribers last month may have noticed that THE FLOWER GROWER paper was not altogether uniform. Because of freight delays for a part of the edition we were obliged to use such paper as was obtainable and consequently we could not maintain the high standard which THE FLOWER GROWER has established. However, impossible railroad conditions from severe winter weather were the cause, and we hope and believe that it will not occur again. Difficult railroad, weather and labor conditions make the publishing business these days anything but a bed of roses.

No further announcement was made last month of the next annual show of the American Gladiolus Society as the question of having the show in Cleveland this year was again taken up, and at this writing it is expected that suitable arrangements can be made to hold the show in that city. It is indeed unfortunate that arrangements could not have been made at an earlier date so that a definite announcement could be made early in the winter.

A Plant Hunter.

By ALFRED C. HOTTES.

[Written expressly for The Flower Grower.]

A lad perhaps ten years of age, strolled toward the gardens of the University of Amsterdam. There he saw a man painstakingly planting minute slips of some plants. Patiently, he watched the gardener unwrap one after another of these little cuttings.

"What are they?" questioned the lad when he could control his curiosity no longer.

"Little slips," said the gardener.

"Are they beautiful plants?"

"I hope so. They came from a foreign country."

"Are they from a country far away?"

"Yes, my boy, these plants came from Turkestan."

"Is that from Turkey?"

"No, Turkey is in Europe, but Turkestan is in Asia - in China."

"Is it really? Then I should like to go there. I'd like to travel a million miles. I'd like to go to Russia. I'd like to see the mountains. I'd like to—I wish I might plant those slips."

"I'm satisfied to stay here," said the gardener and he fulfilled his wish.

The lad went home but he was in deep thought. "I am going to travel all over some day," said he to himself.

The next day he came again to the garden.

"Have you any more plants from Turkey-stan?" he questioned.

"No" said the gardener and went on smoking his pipe, "We just got that one box yesterday."

"Will you get any more?"

"No, I never expect any more."

"Never?" said the boy. "You never expect any more? That is too bad."

"What is your name?"

"Franz, Franz Meyer," for it is no less a person than Frank N. Meyer about whom this imaginary conversation is written.

Gardens, flowers and foreign countries filled the boy's thoughts from day to day. Sometime after, he received a job in these gardens and finally became an assistant to the great Hugo DeVries, the man who has so clearly pointed out to us that some of the plants we see about us are changing suddenly into new species, and that, perhaps this is one of the ways by which we have so many diverse plants over the surface of the earth.

Every opportunity Frank Meyer had, he travelled, exploring the plants. In this way he crossed the Alps on foot, went down into Italy. Later came to America, tramped through the United States, than dipped down into Mexico—ever collecting, always preferring to go afoot.

About 1905 an offer from the United States Department of Agriculture came to him to go to China in search of plants for introducing to this country. And so he spent three years in Northern China, Manchuria and Northern Korea, then he returned to Washington and a year later left again for the Caucasus, Siberia, Russian Turkestan, and Chinese Turkestan. Two other expeditions he made, but no more.

Read part of one of his letters from Turkestan.

"Alone in Samarkand! My assistant yesterday got tidings from home that his presence was urgently needed, as the man in charge of his farm was severely injured by a horse, and he left me. The interpreter had left the day before, as his eyesight and general health had become rather poor these last days on account of the great heat, so it has come to pass that I am left alone in this far-away land."

Days he spent collecting seeds, cuttings and roots of trees, flowers, vegetables and fruits which might be adapted to American culture. He was usually watched closely, for the natives could see no reason why he was collecting so many plants. They felt that there was an ulterior motive in his activities.

Nights he spent in the open, or at inns, noisy with drinking and gambling, and, as he himself expressed it, with "odors hanging about to make angels, even, procure their handkerchiefs." Foreign tongues ever babbling of things he never knew.

"But when the roses bloom in New England." writes Dr. Fairchild*, "his *Rosa Xanthina*, the hardiest of the yellow bush-roses, will be a mass of gold. When the ground thaws on the bleak plains of the Dakotas, thousands of his Chinese elms will put out their leaves and take their place in the wind-breaks of that treeless region. All the way up from Florida and Georgia and over the Canadian border this elm is now growing—a remarkably adaptable tree.

"His ash from Kashgar will spread its branches over the alkali soils of Nevada. When cherries are ripe in California his Tangsi cherry will be the earliest to ripen by a week or ten days.

"As autumn peaches ripen, the trees of the Fei peach will attract unusual attention, for it is the pound peach of the Shantung Province and bids fair to take a special place among the canning peaches of this country."

On his last expedition, thirty miles north of Nanking, he drowned in the Yangtze River and he shall not have lived to enjoy seeing in America the fruits of his labors. His boyhood wish was fulfilled; his life was a useful voyage.

The National Geographic Magazine writes this tribute—a worthy inscription it would be for a tablet in his memory:

"Among explorers no individual receives less recognition for signal service to civilization than the hunter of plants. His name is not written upon new-found lands nor upon hitherto uncharted seas. But through his vision, his daring, and his fortitude he enriches the waste places of his home land and helps to feed thousands of to-day and millions of the future. The plant-hunter is an unsung Columbus of horticulture."

Most of our most prized possessions of the garden are the gathered treasures of men who have braved insect-ridden swamps, precipitous mountain peaks and burning desert wastes; these men have defied disease, danger, trying climates, starvation, thirst and every physical discomfort, coupled with the added loneliness of the hermit and ascetic, cut off from companionships. These flowers and fruits we inherit without a thought of gratitude.

---

* The writer is indebted to Dr. David Fairchild's excellent article in The National Geographic Magazine, July, 1919, for the facts in this story.

The Joys of a Garden Pool.

There is no need to plead the merits and joys of a garden pool. They are everywhere acknowledged, and every one has a pool who can afford the cost or the water. Growing aquatic plants is but one of the pleasures. Would that our flower-beds could be so beautiful in their surface and appaling in movement, so satisfying, in short, whether the flowers grow or not!

The structural design of a pool is not a difficult matter. As a piece of engineering, it is simple so long as the pool is full of water. If it be emptied, then the walls of the pool become a retaining-wall and must be designed to resist earth-pressure, and, if it be in low ground, possibly hydrostatic pressure.

The pool, however, presents a difficulty in that it must be water-tight, so that a movement of the walls which would pass unnoticed in a terrace wall will produce cracks which are sure to leak. This is most likely to happen if the pool be empty in winter, when the pressure of the frozen ground will inevitably crack the walls by moving them slightly inward. Leaving the pool full of water through the winter usually prevents this damage, since the ice-pressure is equalized by the ground-pressure outside and the ice buckles or slips on the side of the pool until the outside and inside pressure are practically the same.

It has been our invariable experience that damage happens only when pools are emptied in the winter, and that pools with water in them never come to harm so long as the water-level in winter and the ground level are the same.—*Landscape Architecture.*

Massachusetts Gladiolus Society.

A representative number of the Gladiolus Growers of the state of Massachusetts met on April 3rd in Horticultural Hall, Boston, Massachusetts, to organize a society of local Gladiolus growers.

Massachusetts is considerable of a Gladiolus growing section and a local or state organization of Gladiolus growers may prove of distinct advantage.

S. E. Spencer acted as temporary secretary. Plans for the future were discussed and the need of better co-operation among growers. Officers were elected as follows:

President - C. F. Fairbanks, Lexington, Mass.

1st V. Pres.—S. E. Spencer, Woburn, Mass.

2nd V. Pres.—John Zeestraten, Mansfield, Mass.

Treas. - C. W. Brown, Ashland, Mass.

Secretary - Robert R. Walker, Mansfield, Mass.

Executive Committee—E. M. Fisher, T. M. Proctor, L. M. Gage.

Auditor, F. H. Goodwin.

WAYSIDE RAMBLINGS

[*Written expressly for The Flower Grower.*]

CRIMSON GLOW AND DOMINION—OTHER VARIETIES.

I notice with interest the comparison by S. E. Spencer between *Dominion* (*Red Emperor*) and *Crimson Glow*. My experience is slight but I will give the results of it. I had only about a hundred *Crimson Glow*, the bulbs planted being ½ inch diameter. These small corms flowered late because of their small size but that brought them in with the fall rains and they bloomed late in August while I was at the State Fair and some of the flowers were sent to me to keep up my exhibit. I was not informed of this by my man and they passed for *War*, the flowers not being as large as *Dominion* on account of the very small corms planted. I should have said, however, that the larger corms of *Red Emperor* were planted later and had a hard time with drought when in bloom. The thing which impressed me favorably with regard to *Crimson Glow* was its strong growth and productiveness. I shall look with interest for its performance next season from good sized corms grown from last year's little ones. *Red Emperor* seems to me, so far, the finest flower but I think it will not prove to be as productive.

By the way: What is the matter with *Golden Measure*? It has been in market several years and still stands at about $5.00 per corm. I never had the temerity to indulge at that price but it seems to me probable that those who have tried it must have had poor luck in propagating it, since it still stands at the high price. I should like to hear from some of the brethren their experience.

Among the newer sorts I tried last summer was *Distinction*, quite in the color class with *Goliath* but a little taller and the flowers somewhat smaller but flatter open. It seems to be quite productive of cormels and also multiplies directly. I had a very few corms of *Majestic* which seems to be a decided improvement on *Prince of Wales* but I suspect it will not multiply as well. If it increases fairly it will come to the front after a while. I do not know where stock of it is to be had as the few bulbs I had were from a small importation made just before the F. H. B. quarantine went into effect.

GEO. S. WOODRUFF.

A CHAPTER IN THE LIFE HISTORY OF THE CROOKED GLADS.

Last summer, I had the pleasure of taking a few of my friends through one of my Gladiolus gardens and as they were admiring some of the beautiful flowers one of them spied some Crooks making their way in among the flowers, so we immediately went for them, and as they showed no resistance to being taken into custody, we immediately went after them with a knife, took them home and locked them up in the cellar until they could be brought to trial.

After consulting with different ones as what tribunal they should be taken before for trial, we decided to bring them before *King Phillip* who stands high above all Gladioli, and after consulting him he decided it would be well to have them tried before a Jury, and so the following were selected to serve as a jury, *Annie Wigman, Mrs. Watt, Ida Van, Mrs. Francis King, Mrs. Frank Pendleton, Lily Lehmann, Empress of India, Mary Fennell, Myrtle, Augusta, Prince of Wales* and *Evaline*.

The jury having been drawn the trial was at once begun, the place was filled with all the named sorts of prominence, both male and female, the first witness called was *Jessie*, who said that when she first saw the Crooks starting out in life they went straight, but as soon as they had grown up they started to go crooked, and, even after being warned by her to go straight they still kept on in their crooked ways. The next witness was the *Blue Jay*, who testified that when he first saw them they had already started out on their crooked ways and he suggested they ought to see that they were tied up to a stake, that would help them to go straight. The next witness called was *Hazel Harvey*, she said that when she saw them, the Crooks were so crooked that it was impossible to make them go straight even if they had been tied up to a stake. After hearing several other witnesses who simply corroborated the above testimony the case was given to the jury who were charged, that as the case was a very critical one to decide, they should consider it seriously and remain out until such time as they could agree, after which the jury retired.

The jury after being out three weeks, without any rest whatever, before coming to an agreement, brought in the following verdict: *Annie Wigman* being the foreman spoke for the rest and stated, that as long as the Crooks were good on the starting out in life, and as they grew up had no chance of going straight on account of not being tied up to stakes which would probably have kept them straight, they could not be held responsible for their crooked ways as they were warned too late to go straight, even if they had been tied to stakes. *King Phillip* then asked the Crooks to stand up and state why they should not receive their sentence, but as they were too crooked to stand up they were permitted to remain in their present position, and *King Phillip* gave the following verdict or sentence:

Although the Crooks were very crooked in their ways, he thought they appeared a great deal better grouped together in their crooked position than some others who were straight, and could not go crooked even if they tried their best so to do. The Crooks then went out rejoicing, knowing that they were as good for some purposes as the ones that went straight.

HERMAN KIRSCHT.

AN AGED READER'S APPRECIATION.

DEAR FLOWER GROWER READERS :—

I read THE FLOWER GROWER thoroughly, ads., and all.

I think Madison Cooper is doing a good work to increase a love for flowers among the people, especially among "country people." I know whereof I speak. I lost a good farm home by signing a piece of paper, and have been, as it were "on the wing" selling life insurance. So being a farmer till 60 years of age, I noticed the surroundings around farm buildings. Often we see old cast off machinery in the back yards, with lots of thrifty burdocks growing, with other nameless weeds, where, by a little help from the owner, a beautiful plot might be made for the good wife. There are "well to do" farmers who do not think any more about a woman's comfort and pleasure in having a few flowers, not so much—as they do about their horses and cows.

Will say Mrs. Austin's Talks always interest me, and I like The Glad Philosopher's writings—he hits the nail on the head, especially when he talks "Open Fire Place." If our good editor sees fit to print it, will write an article telling about my experiences about "an open fire place," also of my dear mother's passionate love for flowers. I suppose I got my love for flowers from my mother. I do watch with intense interest the budding flowers and take lots of comfort watching them bloom out into beauty.

S. R. SMITH, (82 years young.)

VARIATION IN DELPHINIUM MOERHEIMII.

Among a group of Delphinium *Moerheimii*, which is one of the best known pure white perennial Delphiniums, I noticed a plant which threw a stalk of flowers which were each partly blue and partly white. The next year this root was cut up into smaller clumps. That year in one clump a more marked production of all-blue flowers than of white flowers was noticed, while in another of these clumps, more all-white than blue flowers was the rule, though each clump bore some blue and some white flowers. The following year, unfortunately, the clumps succumbed to a funguous disease, so further observations were not possible. Is this a common happening in the Delphinium *Moerheimii?*

KATHERINE W. REID.

NOTES ON CUTTING GLADIOLUS CORMS TO PROMOTE INCREASE.

In cutting bulbs I have always been most particular about having a good looking eye on each section, indeed I think it would be useless to attempt to grow a plant from a section that had not a fairlooking eye to start with. Even then my impression is that if the eye is very small and undeveloped, nothing will come of it.

My reason for thinking that it is an advantage to leave the bulb in one piece if two shoots look like growing, is that there is a certain amount of disturbance and shock to the bulb when cut, and this may more than counterbalance the advantage to be gained by having the second set of roots in other soil. If one has his soil rich enough, each bulb will be well matured and large, as every grower knows by oft repeated experience.

W. E. SAUNDERS.

SECURING PEONY SEED.

With no desire to find fault but a sincere desire to improve the culture of the Peony, I must protest against the article by Mrs. Pleas in the April number on Peony Seed. While all singles are seed bearing no one now thinks of using any but the very best for "Mothers" for the future seedlings. The age of breeding "scrub" stock of any kind is past. Only the best in size, color, stem and fragrance should be selected.

Secondly she advises "visiting some nursery in July and gathering all you care for" after telling us it's worth $5.00 a lb. I have had just that very thing done. After careful hybridizing I have had wealthy patrons pick seed pods of choice Delphiniums and other plants and put them carefully in their gloves. I have to follow such people around and watch as closely as any detective. I am sure Mrs. Pleas wrote this without considering the nurseryman's side of the question and I am sure that any one who wants to raise seedlings will want to buy their seed and buy from good stock. "PEONY GROWER."

STATEMENT OF THE OWNERSHIP, MANAGEMENT, Etc., OF THE FLOWER GROWER, published in accordance with the Act of Congress of August 24, 1912; Publisher, Madison Cooper, Calcium, N.Y.; Editor and Managing Editor, Madison Cooper, Calcium, N.Y.; Owner, Madison Cooper, Calcium, N.Y.

Known bondholders, mortgagees, and other security holders holding 1 per cent. or more of total amount of bonds, mortgages, or other securities : None.

(Signed) Madison Cooper.

Sworn to and subscribed before me this 31st day of March, 1920.

(Signed) Margarette M. Hendricks, Notary Public,
[Seal] Jefferson County, N.Y.
Commission Expires March 31, 1921.

Germination of Gladiolus Seed.

BY CHAS. E. F. GERSDORFF.

[*Written expressly for The Flower Grower.*]

OWING to the absence of authentic or definite information concerning the time required for Gladiolus seed to germinate, and believing this has deterred many amateurs from trying to raise new varieties, I have made some careful records, determining the time required, the percentage of germination and the percentage of corms harvested.

The seed used in these experiments were mostly of my own crosses, though I also tested seed from several growers. The seed was planted in loose, rich loam, just barely covered, in square paper pots which were packed together in flats. After watering thoroughly the first time, the surface of each pot was lightly and evenly covered with dry pulverized sheep manure. This covering of manure kept the pots from drying out too rapidly. The pots were never allowed to become bone dry till just before the young corms were to be harvested. From the date of planting to harvest time the flats were kept in sunny windows indoors.

In the table I give the facts as recorded. The plantings were under observation till the end of June. According to the table the average percentage of germination was 60 per cent and the average percentage of corms harvested was 30, based on the total number of seeds planted. Though all seeds were carefully hand selected for plumpness, it is evident that not all were fertile. In making this selection, in only one case did the apparently worthless seeds outnumber the plump ones. The time required for the seeds to germinate was not constant. However, the results indicate that most of the seeds should have germinated in 31 days, some showing as early as the sixteenth day after planting and a few requiring up to 85 days.

Number of Cross or Kind	Number of Seeds	Date Planted	Date First Seedling Appeared	Date Last Seedling Appeared	Time to Germinate—Days	No. Germinated	%	Number Corms Harvested	%
2C	29	Dec. 1	Dec. 28	Mar. 22	27–80	21	72	16	55
3B	58	Dec. 1	Dec. 28	Jan. 1	27–31	28	48	19	33
M3	23	Dec. 1	Dec. 28	Jan. 1	27–31	8	35	7	30
4B	38	Dec. 1	Dec. 28	Jan. 1	27–31	23	61	18	47
4C	35	Dec. 1	Dec. 28	Jan. 1	27–31	33	94	28	80
4D	114	Dec. 1	Dec. 25	Mar. 22	24–80	25	22	18	16
5B	19	Dec. 1	Jan. 1	Jan. 1	31	2	11	1	5
5C	72	Dec. 1	Jan. 1	Mar. 22	31–80	45	63	33	46
7B	15	Dec. 1	Jan. 1	Mar. 22	31–80	12	80	7	47
9C	1	Dec. 1	Jan. 9	Jan. 9	39	1	100	1	100
13B	70	Dec. 1	Jan. 10	Mar. 22	40–80	15	21	9	13
14C	4	Dec. 1	Jan. 1	Jan. 1	31	1	25	1	25
16C	9	Dec. 1	Jan. 1	Jan. 1	31	4	44	3	33
18C	8	Dec. 1	Jan. 1	Mar. 22	31–80	2	25	2	25
18D	12	Dec. 1	Jan. 1	Jan. 1	31	7	58	5	42
19C	22	Dec. 1	Jan. 1	Jan. 1	31	4	18	4	18
20B	24	Dec. 1	Jan. 1	Jan. 1	31	7	29	7	29
23B	4	Dec. 1	Jan. 1	Jan. 1	31	3	75	2	50
27C	12	Dec. 1	Jan. 1	Jan. 2	31–32	4	33	3	25
33B	27	Dec. 1	Jan. 1	Jan. 5	31–35	7	26	6	22
34	7	Dec. 5	Jan. 10	Jan. 10	36	3	43	3	43
36A	9	Dec. 1	Jan. 1	Jan. 1	31	2	22	2	22
37C	21	Dec. 1	Dec. 28	Jan. 1	27–31	12	57	11	52
38C	17	Dec. 1	Jan. 1	Jan. 1	31	9	53	6	35
41	4	Dec. 1	Jan. 1	Jan. 1	31	3	75	3	75
43B	20	Dec. 1	Jan. 1	Jan. 1	31	11	55	10	50
46	7	Dec. 5	Jan. 15	Jan. 15	41	1	14	1	14
56A	19	Dec. 1	Jan. 1	Jan. 1	31	3	16	3	16
64	3	Dec. 1	Jan. 1	Jan. 1	31	3	100	3	100
6 B	14	Dec. 1	Jan. 1	Jan. 1	31	5	36	5	36
6 C	3	Dec. 1	Jan. 1	Jan. 1	31	2	67	2	67
6	5	Dec. 1	Jan. 1	Jan. 1	31	1	20	1	20
C. W. Brown, large flowered	813	Feb. 22	Mar. 13	May 18	19–85	513	63	235	29
C. W. Brown, Primulinus	1124	Feb. 22	Mar. 13	May 18	19–85	908	81	444	40
Praecox	456	Mar. 7	Mar. 23	May 29	16–83	198	43	41	9
Tracy's Hybrids	143	Mar. 1	Mar. 23	May 11	22–71	26	18	12	9
Totals	3261					1952		972	
Averages							60		30

American Peony Society.

BULLETIN NO. 10.

This is a Hollis number, and in addition to giving a little history of Mr. Geo. Hollis' work, the Hollis varieties are very thoroughly described, and there is a long list of Hollis originations.

An article entitled "Hybridizing the Peony" by Mr. Hollis is also printed.

Some Easily Propagated Perennials.

BY M. EMERSON MAIN.

[*Written expressly for The Flower Grower.*]

BUDDLEIA DAVIDII SUPERBA.

This Buddleia is from the Arnold Arboretum, and it grows from ten to twelve feet in height with me. The leaves stay on the bush all winter, usually, and they are wrinkled and of a downy texture. They are small, and of a grey-green. It begins blooming in August and continues until severe cold weather, the blooms being of a purplish lilac color and in spikes over a foot long. The spikes are cylindrical, and the base often measures two inches in diameter. The plant has proved perfectly hardy here in Southern New England. Buddleias are fine fall bloomers, and this Buddleia is easy to propagate. The shoots that in spring come up around the base of the plant will, almost without exception, root in water or moist sand, and so will the young growth from the branches. They make rapid growth when transferred to open ground. There is a fragrance to the flowers, but it is more pleasing when the flowers are in the garden than when they are used as cut flowers.

CARYOPTERIS MASTACANTHUS.

A perennial that is a dwarf shrub, growing from three to four feet high. It will live through severe winter weather alright if given good drainage and a location where it will be a bit sheltered from cutting winds. It is a neat grower, with small pretty leaves and attractive flowers of medium blue arranged in whorls at the leaf axils. It begins blooming in September, and it continues until hard freezes. It roots easily in water, from tips of branches or from young growth. I broke off some branches one June and put them in water as an experiment, and they rooted in less than a week. When set in the ground they grew along as if nothing had happened to disturb them, and in fall even the smallest plant had blooms on it. It is a fine plant to set in front of Boltonia or other white-flowered fall bloomers, the tall sorts.

ARTEMISIA ABROTANUM (Southernwood.)

This is an old-timer, always found in grandmother's gardens. It will grow, under good cultivation, to four feet in height, but it will grow in very poor soil if need be. It has fine-cut foliage and is splendid to use with cut flowers if one likes fragrant foliage. This shrubby perennial can be easily rooted in water at any season of the year, and once rooted the plants grow quickly. It is a plant that adapts itself beautifully to pot culture, and there is nothing cloying about its fragrance when house-grown. Used as a pot plant it is as decorative as many of the prized Acacias.

The American Iris Society.

The month of May for many of us is The Iris Month, ushered in by the Alpine or pumila hybrids which insensibly give way to their larger brethren, the intermediates, of which *Ingeborg, Walhalla, Dorothea*, or *Prince Victor* are good examples. Both these races, the hybridizer, W. J. Caparne, has written of as of the same complex parentage, the results of crossing and recrossing all the dwarf early forms and with such later species as germanica and pallida. You will find them in three sizes; *Schneekuppe, Ivorine*, and *Dorothea*, the last the largest, are representative, but it is curious to note that, at least here in Massachusetts, the larger forms rarely set seed whereas many of the dwarfs are prolific. There is also among them all a great dearth of self-colored light lavenders and deep clear yellows, nor do I know of any of variegata coloring. *Cengialti* which was first used by Sir Michael Foster has given various shades of lavender, in *Mrs. Alan Gray* a pink-lavender, in *Alexander* a purple and these bloom slightly later than the familiar *Kochii, Kharput*, or *Amas*. With the omission of the Alpine hybrids, there are about 60 named varieties to choose from for garden effect before the great color pageant of pallidas, variegatas and their many variations.

Thirty years ago only the germanica varieties that come from Asia Minor and Southern Europe (never Germany) were found in our gardens at this season and this is but one of the many indications of the possibilities of hybridization. I hope that many of you will enter into this fascinating experimental work,—the procedure is simple.

HYBRIDIZATION.

The terms pod or pollen-parent are easily understood. First remove the stamens from the selected pod-parent, then selecting pollen laden stamens from the other parent (a small pair of tweezers is convenient for handling them) brush off from this sufficient pollen so as to well-cover the stigma of the pod-parent. Fully opened flowers should be used and the stigma seems to be more receptive for fertilization when it has started to roll out from the style-branch and is slightly pubescent. Secondary fertilization by bees is rare, but for careful records, break off the falls; bagging the fertilized flower does not seem necessary. The outline drawing in the April FLOWER GROWER depicts the parts of an Iris flower and Mr. William Rollins has given full details of the process in *Horticulture* issues of July 27 and August 3, 1918.

(The complete articles by Mr. Rollins may be found in THE FLOWER GROWER for the months of January, February, March and April 1919—Editor.)

Wet weather is often fatal to pollination and there is a great variation in the fertility of different varieties, *Monsignor*, for example, has no pollen, but proves a fair pod parent; *Kochii* in this latitude may form pods, but no seeds and so the ratios may vary greatly. Avoid, at least at first, all the intermediates and germanicas as it takes many a trial to get a result, but the pumila hybrids are almost too easy and many of the late blooming ones are likely to seed well. Just as in other lines of breeding select the finest individuals, though it is unfortunate that what you may consider fine may prove quite the reverse as a parent. *Eldorado* has carried its size and narrow segments, but not its strong coloring; pallida *Dalmatica* gives height and size, but it has been so widely used that the seedlings are often not sufficiently distinctive and rarely do you find its fine flaring falls and satiny texture. It is rather bromidic to say that like produces like, but many of us appreciate the near-pink tones even though the blooms are small; white may come from any cross and in the breeding of unlike varieties there is a great uncertainty as to results which adds greatly to the joys of anticipation.

STANDARDS OF EXCELLENCE.

The standards of excellence which we are using this season for the guidance of judges and prospective exhibitors in Iris Shows may prove of assistance in judging the merit not only of your seedlings, but of the selected parents. Later we plan similar scores for indoors and out that will more surely reflect the opinions of all our members. Keep this in mind and as you walk through your garden consider just why each variety is good or poor.

As a cut flower, a variety must be distinctive, the stalk showing a pleasing relation of height, branching and size of flower, the bloom of clear and attractive coloring, each in its respective class comparing to advantage with one of the following, viz: *Ingeborg, Amas, Mrs. Alan Gray*, pallida *Dalmatica, Alcazar, Caterina, Rhein Nixe, Monsignor, Loreley, Iris King, Jacquesiana*, or a better plicata than *Mme. Chereau*. Conversely a variety that is low-growing with unbranched or poorly balanced stalks, the flowers of uneven, dingy coloring, irregular form or small size must have some great outstanding quality to deserve recognition. I will give these in tabular form, each quality with its point value:

FOR AN INDIVIDUAL VARIETY.

Outstanding quality	4
Stalk (5)	
Height, (over 30 in.)	2
3 or more branches	1
9 or more buds and flowers	1
Poise	1
Flower (11)	
Color	4
Form	2
Size	2
Substance and Texture	2
Fragrance	1
Total	20

The standards of excellence for a collection have a more limited scope, though there will be many Iris shows, some of you are too isolated to take part and some (shall I write frankly?) too indolent to prove your interest.

FOR A COLLECTION.

Apply to each vase.	
Quality of blooms	2
Freshness	2
Elegance of stalk	2
Rarity of variety	1
Apply to exhibit as a whole.	
Variety of height and color	2
Naming, arrangement, etc.	2

HANDLING IRISES FOR EXHIBIT.

Our information on this point is very incomplete but the following suggestions may help somewhat. In the announcements LOCAL members are given an opportunity to procure details of dates, classes and so forth from the local member in charge of each exhibit.

An exhibitor should always go over carefully the wording of the schedule and become familiar with the Rules. Follow them strictly. Varieties entered for competitions should always be labeled, (the A. I. S. is providing small cards) always enter the required number in each class, no more and no less, and arrange them with some show of appreciation for the general effect to avoid color clashes, or crowded effects. One would not expect that anyone would show bruised or injured flowers but you will see many at almost any exhibition.

The A. I. S. is offering Silver and Bronze Medals, in such number as the number of exhibitors at each show seems to merit. There will also be a Certificate of less value and for Meritorious seedlings awards of Honorable Mention. The Award Cards I think will be considered attractive and distinctive, well worth showing off and in many cases plants of fine varieties are also to be won.

It is well to know in advance what sort of vases are to be used as Irises should, if these permit, be shown with their full length of stalk and just a sheaf of foliage. Make the cut-flower appear as nearly perfect as it might appear as growing in your garden.

The exhibitor near at hand has a great advantage, he can select his stalks just as the first flower unfolds, carry it by hand or in a pail in an automobile, each stalk upright, held away from its neighbor by a packing of crumpled paper. The more distant are handicapped by the necessity of packing the flowers and as yet we can offer little advice from experience. Always pack a few more stalks of each variety than the schedule calls for, selecting such as show buds in different stages of development, sometimes just showing color, sometimes so near to bursting that you must tie them with soft wool. Do all this the day before the show and keep the flowers in water, in a cool place until you are ready to pack. Flowers that come out in water lose in size and often a little in their depth of color.

Many just pile the budded stalks into ordinary flower boxes, one on top of another and then select the better ones to exhibit, it would be better to pack them carefully in tissue in shallow trays but neither method permits of carrying full-blown flowers, which is most desirable at times, particularly for seedlings or when a special effort is worthwhile. And, by the way, *never* trust your boxes to ordinary transportation, keep them by you throughout. Miss Sturtevant takes a box about 8 x 12 x 48 inches, runs across and through the center, strips of cotton cloth at various distances apart, then lays in each stalk, pins it down to the strip on either side at various points with a bit of tape, so that there is no chance of slipping. Depending upon the development of the flowers, there may be 12 to 40 stalks to a box and exhibiting more than 100 to 150 stalks in this way is about the limit. Thus one can exhibit stalks with two or more large blooms in as perfect condition as though fresh picked. If the stalks are very long, holes are cut in the box and if the flowers were to be out of water for more than four and five hours I should wrap the ends in moist cotton-batten.

Culture.—A special Bulletin has been authorized and will be issued, we hope, by June. The Bearded Irises may be transplanted at any season but spring planting does not give you representative bloom this year and remember that Northern Nurseries may not be able to ship until late May. The Beardless forms are, however, better transplanted in the spring though here too any time is safe, and another thing, dry packing with little chance for mold is far preferable, therefore do not be disappointed if your roots look thoroughly dried.

Exhibitions.—With the exception of one planned at Minneapolis in conjunction with The Northwestern Peony & Iris Society there is little further news to report and details may be procured from the local authorities. The big show at Philadelphia will include twenty classes calling for from one to fifty varieties and so grouped as to call forth competition from many interests. Group I, Open. Group II, Open. Group III Open to amateurs only. Group IV, Open only to individual Members of Garden Clubs of America. An exhibitor may enter Group I and one other group only. As in other shows there are classes calling for collections, for specimens, for seedlings and for artistic arrangement and though Bearded Irises predominate there is opportunity to exhibit other species.

Schedules will be ready about two weeks in advance of date of exhibition and inquiries should be addressed to the local authorities.

Minneapolis. In conjunction with The Northwestern Peony & Iris Society. Twenty classes for amateur and commercial growers. T. A. Kenning, 1815–26th Ave., N., Minneapolis, Minn.

Cincinnati. In conjunction with Garden Club of Cincinnati. About May 25th, E. E. Hardcastle, 4th & Vine St., Cincinnati, Ohio.

Boston. In conjunction with Mass. Hort. Society, June 5 and 6. Twenty classes for amateur and commercial growers. R. S. Sturtevant, Wellesley Farms, Massachusetts.

Flushing, N. Y. In conjunction with The Park Garden Club. Mrs. John W. Paris, Kissena Park, Flushing, N. Y.

Philadelphia. In conjunction with The Penn. Hort. Society, May 28, or June 1. University Hall, The Wanamaker Store, Phila., Pa. John C. Wister, Germantown, Phila., Pa.

Nashville, Tenn. Floyd Brallior, Madison, Tenn.

Washington, D. C. In conjunction with the Takoma Park Civic Improvement Society. About May 24th for Amateurs only. Homer C. Skeels, 210 Holly Ave., Tacoma Park, D. C.

Ballot.—On page XIV is given the ballot for election of officers as reported by the Nominating Committee who considered that the present officers should have more of an opportunity to carry out their initial policies. The amendments concerning affiliated and associated memberships have been adversely reported upon by the full Board of Directors, but by so small a majority that it was considered desirable to include them for your consideration. In other similar societies, neither of these have proved either really profitable, or in many cases conducive to furthering the interest in gardens, in many they have been later repealed. We can cooperate with organizations for exhibitions, lectures, or meetings by special agreement, as is already being done, without these provisions and as these things are among the first objects of affiliation, specific provision seems unnecessary.

I wish to call your attention to the following: The Official Data Card will be sent on request; your co-operation is requested. The Bulletin on Culture is in preparation and will be sent all members.

Classification is to be worked out in conjunction with the Royal Horticultural Society, probably scores for judging also, and this is the season for you to study the flowers and be ready with intelligent criticism. It is the season also for photographs of individual flowers, of stalks, of clumps or masses in the garden. We want to develop a fine collection of slides with your assistance for use with Garden and Iris lectures another winter.

REGISTRATION.

On the basis of the Check List containing over 2300 names, we are starting a Registration of Names of new varieties. It would be advisable also to file a full description when the varietal name is entered. This form of registration is merely to avoid duplication and confusion, there is no charge, and no obligation is assumed as to the value of the variety so registered.

Unless objections are filed with the Secretary by June 1st, the registration of the following will become permanent.

Missouriensis Bluebird, a "deep blue" form of the type. D. M. Andrews, Boulder, Col.

Missouriensis Snowbird, a "pure white" form. D. M. Andrews, Boulder, Col.

Robert S. Sturtevant, Sec'y.

The Glad Philosopher's Musings.

Birds.

It pays to attract the birds by providing suitable nesting places. Now is the time to put up some shelves for the robins and boxes for the bluebirds. And do not overlook some small homes for the tiny house wrens, for they love a flower garden where they can pick off ants from the Peonies and find other small insects that always abound.

Ernest Seton Thompson, in the preface to his book, "Wild Animals I Have Known," declares that the life of a wild animal always has a tragic end. A robin's life is no exception to that rule; it is beset with dangers from the moment the young bird is hatched from the egg, until sooner or later, its life goes out in some unnatural manner. Even before the eggs are hatched they are liable to be thrown out or destroyed by some enemy; often some other bird. As soon as hatched, hungry jays, crows, owls or other nest robbing birds become its natural enemies; then, when old enough to leave the nest it has to run the gauntlet of the sneaking house cat or the small animals of the woods.

The blue jay is an example of the dangerous combination of an intelligent brain and a wicked heart. He has been called a renegade; the clown of the bird family; a bully and a tease. Blanchan says of him: "He is as mischievous as a small boy; destructive as a monkey; deft at hiding as a squirrel. He is unsociable and unamiable, disliking the society of other birds. His harsh screams, shrieks and most aggressive and unusual calls seem often intended maliciously to drown the songs of the sweet voiced singers."

The blue jay is both an inquisitive sneak and a villainous reprobate, for he sneaks through the woods in the spring and when he finds a nest with eggs in it, jabs his bill into them, and even murderously devours young birds. His despicable habit of attacking other birds at nesting time and appropriating their half-built nest, which he finishes for his own use, once inspired the following clever lines by a contributor to the Chicago Tribune:

With twigs and strings and other things,
  The robin builded it strong,
And as he plaited them into shape,
  He caroled a cheerful song.
"Why so busy," the Jay Bird asked;
  "What are you doing, pray?"
"I suppose," said the robin, "I'm building a nest
  For you, you blooming Jay."

Both the crow and the blue jay must stand guilty as charged with the heinous crime of destroying, Herod-like, the young of the robin and other insectivorous birds, which if allowed to grow would annually consume millions of destructive larvae, and so these feathered outlaws cannot occupy a place in our hearts as do the innocent and merry song birds. Murder and rapine are not held in high esteem these days, either in or out of birddom. The world will never forget the march of the Hun through Belgium.

An experimenter has observed that a young robin will eat with apparent relish 68 angle worms in one day. Some appetite that! If all the worms that comprised a day's rations were laid end to end they would measure about 14 feet. Wouldn't it be interesting to stage a contest between a young robin and an Italian macaroni eater? Weight for weight as to the contestants, the writer would back the young robin!

The Glad Philosopher.

Rhododendrons.

There has been much discussion as to the relative merits of our native American Rhododendrons and the hybrid varieties imported from Europe. Of our native species *R. maximum* has been the species most largely planted. In its natural state it is found in moist, shady woods where it is sheltered from sun and wind. Why this Rhododendron is so extensively planted by many landscape men in situations where it is exposed to wind, sun and drought is a matter quite beyond our comprehension—probably because it produces that which pleases most clients, immediate effect. Such immediate effect is, however, of short duration, the plants soon die and when the owner learns the reason, as he invariably does, the landscape man is discredited by the client and his friends. The owner of a large estate on Long Island, N. Y., in speaking of R. *maximum* had occasion to say to us, "I was induced to buy a number of carloads of them at a bargain price of a hundred dollars a car—it cost me five hundred dollars a car to get rid of them." Of course R. *maximum* has its place in landscape work and when planted in a suitable situation constitutes a strong and pleasing feature. Rhododendron *catawbiense* thrives in sun, provided it is given a deep soil of average moisture. It does not suffer seriously from moderate wind, but in common with all broad leaved evergreens should not be planted in wind swept situations. It has a much greater range of adaptability than R. *maximum*. The purple color of the flowers is the only objectionable (?) quality of R. *catawbiense*, and in most of the countries of Europe this color is highly esteemed. Rhododendron *carolinianum* is in our opinion unsurpassed by any other native species. Its rich, deep green foliage seems to be the hardiest of all and the clear pink flower clusters are of rarest beauty. It seems to thrive equally well in sun or partial shade, and is especially adapted to wood-land plantings. We think that this variety offers the greatest possible opportunity for the hybridist who by using this species may give us a new race better constituted to our severe climatic conditions than are the hybrids of R. *catawbiense* to which we are now limited. (*Horticulture.*)

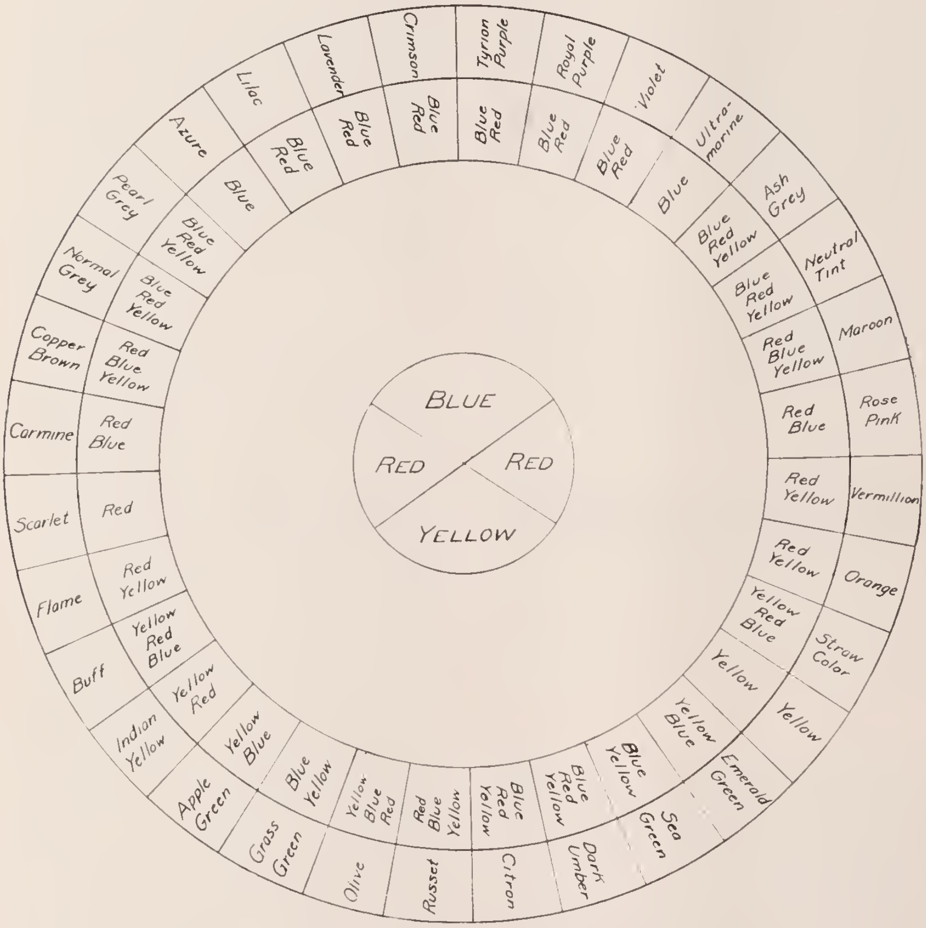
Blending Colors in Flowers.

By William H. Phipps.

[*Written expressly for The Flower Grower.*]

ONE of the most important questions the grower must decide when he concludes to hybridize, is the question of color or hue of color that he desires in his new or improved variety.

He should consult the solar spectrum and learn what colors blend and as nearly as possible the percentage of each of the primary colors that enter into the blended color.



Color Chart prepared by W. H. Phipps showing the primary colors that enter into various combinations of named colors and hues.

Blue, red and yellow being the primary or elemental colors, all other colors and hues are combinations of these colors.

Take a piece of well cut glass, or better still a clear white diamond, and hold it in the sun so that the reflection will rest on some opaque substance, preferably white and you will note the dissolution of the rays of the sun into primary colors, and we have

Blue

Red

Yellow

Orange and violet are not primary colors but are combinations of color.

Green, in so far as flowers are concerned, will not be discussed, for now we do not have pure green flowers. It is true that at an earlier period in vegetation flowers were green but that stage has long since been passed and we now have the brilliant colors of flowers arising from the primary colors and combinations of primary colors.

White is not called a color, being the opposite of black which likewise is not a color, but so far as flowers are concerned must be considered, for we have many white flowers, and growers are constantly striving to produce pure white, an object in many varieties of flowers not yet attained, but so nearly approached as to produce magnificent bloom.

The value of white lies in the fact that it is beautiful in itself, and harmonizes with any color or combination that the artist may desire. I use the term artist here, I think advisedly; for surely, he who by his skill in hybridizing, produces a new flower more beautiful than has been heretofore produced, is a greater artist than the most skillful painter, for he—the painter—only produces an imitation of the real flower and the painting never equals the flower itself.

Black is being sought for in the growing of almost all sorts of flowers now, and we frequently see the names "Midnight," "Queen of the Night," and other names indicating the production of a black flower.

However, for the purpose of considering flower colors, both white and black must be considered in connection with the modifications of color.

Take for instance the primary color red as a base and modify it with blue and yellow, or either of these colors singly, and you have nearly the whole range of color in the various shadings in proportion to the amount of color used of the several primary colors. So to your liking in the selection of the parents of your seedling you assure yourself of the desired blending of color just as does the great painter in selecting the pigments to be used on his canvas that shall some day make him famous.

To illustrate what I am trying to say I have drawn a chart based on an authentic discussion by some of the greatest color scientists, whose articles have been published under the sanction of the best authorities of the present day, and I give this chart herewith.

In so far as we wish to use these combinations in flowers we may eliminate all greens.

We wish to call attention to the following;

Blue enters into twenty-six named colors; Red enters into twenty-four named colors; and Yellow enters into twenty-two named colors.

Blue and red enter into combination in twenty named colors.

Blue and yellow enter into combination in nineteen named colors.

Red and yellow enter into combination in sixteen named colors.

Blue, red and yellow enter into combination in twelve named colors.

The addition of white lightens all shades.

If you want a cream color you pollenate a white with a light yellow.

If a scarlet is desired you will pollenate a red flower with a yellow flower.

The results to be obtained are almost infinite. It is well to remember, however, if you cross with blue, or with any color having blue in it as one of its primary colors, that you can never eradicate that trace of blue. It is well to keep this in mind, and when pollenating keep in mind this color chart; it will be invaluable to the grower.

White always has a purifying effect wherever used, but in some cases it may have the effect of detracting rather than adding to the color effect.

The statements made in connection with this article are on the basis of pure colors and since pure colors are very rarely obtained in flowers, the results necessarily must be modified to the extent that the color in flowers is impure or a combined color.

It is up to the breeder to study his subject and to arrive at his own conclusions. No hard and fast rule can be laid down for the reason that one must judge from the flowers themselves.

Make the trial; ripen and gather your seed and await results, if you have given the matter careful attention you will not be disappointed.

THE DAHLIA

Separating Dahlia Clumps.

[Written expressly for The Flower Grower.]

The Dahlia clump can be properly separated by anyone if the following instructions are carefully followed:

Take the Dahlia clump as it was harvested with the portion of the original stalk from which the top was removed (same as shown in the accompanying illustration.)

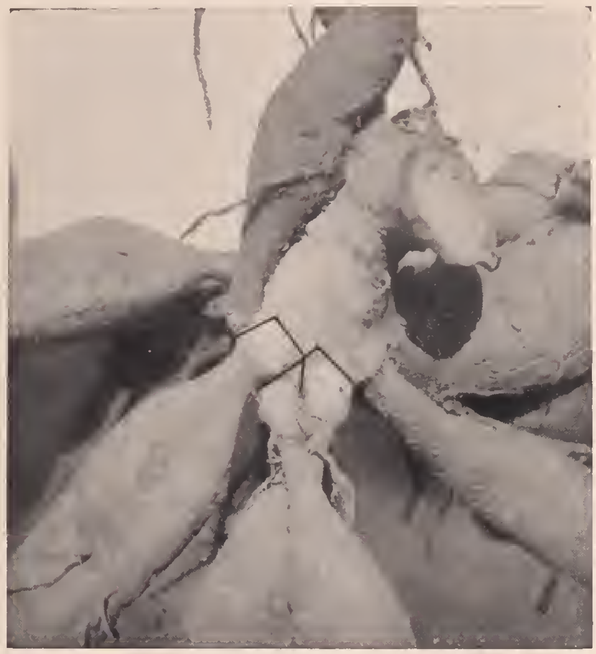
Upon examining the clump you will notice that the tubers formed at the base of the stalk, and that each tuber has a crown, neck and body. The crown being the bulging portion where it is connected with the clump, the neck the small portion between the crown and the body of the tuber. By examining carefully, small eyes or sprouts can be detected on the crowns and stalk base. These eyes produce the new plants, so in separating, it is necessary that each tuber have an eye. Without an eye the tuber is worthless.

In separating, a sharp knife should be used and great care taken. The best way is to remove each tuber individually, but in cutting it is necessary that each tuber have a crown or a portion of the stalk; as it is upon this that all eyes grow.

First of all, select the tuber you think can be most easily removed. With the point of your knife cut deeply into the base of the stalk (the black lines in the illustration showing place to cut), cutting so as to leave an equal amount of the stalk base for each tuber, and so that each tuber has its crown. By cutting deeply into the stalk base on both sides, the tuber becomes separated from the clump, leaving a "V" shaped portion of the stalk base as a crown or head, upon which the eye is found or will grow. The next tuber favorably located from the separating standpoint can then be chosen, and removed by again cutting the stalk-base and so on until the stalk-base becomes the crown of each individual tuber.

When the tuber is planted, it should be laid flat six inches deep, so the crown, around which the new tubers form, will be sufficiently deep to receive plenty of moisture, which is necessary that the new tubers may develop properly. The sprout will grow from the "crown" and soon reach the top of the ground, producing a plant, the stem of which when full grown becomes the stalk.

Cultivation is one of the principal requirements to have a successful Dahlia garden. J. K. ALEXANDER.



Dahlia Clump, Showing Proper Method of Dividing.

Planting Dahlias.

Many amateurs make an error when they plant their Dahlias, which affects their entire results. Many plant too many tubers in a hill, with the result that they receive several stalks, a surplus of foliage, and few flowers. One tuber is sufficient; two plenty, and more than that many a detriment.

Another mistake many amateurs make, is that they stand the tuber on its end, thinking they are helping it to come through the ground, by getting the sprout near the top of the surface, while in reality they are doing the plant harm. Tubers should be laid flat down, between five and seven inches deep, with a sprout or eye facing upward. The new tubers which form, when planted in this manner, will form sufficiently deep below the surface and receive plenty of moisture, while, if they were planted with the tuber standing on its end, the new tubers would form near the top of the ground, and the plant would become stunted, or would not be able to give best results, which would show in lack of blossoms.

It is advisable to cover tubers an inch or so, before applying fertilizer or dressing. Applying the fertilizer above the tuber is recommended, as each rain takes the nourishment down, and the plant receives the entire benefit of the fertilization, where if the fertilizer is below the tuber, each rain carries it further away from the plant.

As soon as the sprout comes through the ground, it is well to commence cultivation, as early and frequent cultivation insures the very best results. If cutworms or ants seem to trouble the plants more than usual, I find "vermine" one of the best insecticides for this purpose. It destroys ants, cut and wire worms, white grubs and root lice.

J. K. ALEXANDER.

Dahlia Culture.

The Missouri Botanic Garden Bulletin for April has an interesting article on Dahlias and their culture. It is stated that the distance apart for planting varies with the varieties, but for general purposes three to four feet are usually left between plants. The time of planting has been a matter of dispute, but there is little doubt that early planting is not as satisfactory as late. To flower properly the wood must be young and succulent, this condition being obtained only through a continuous period of growth without a check. Early-started plants are severely checked by the heat of midsummer and either fail to flower at all or are killed by frost before flowering. Heavy pruning of woody plants may result in sufficient rejuvenation to produce flowers. The last of May or early June is considered the best period for planting.

Light soils are best suited for Dahlias, the original home of the genus being the sandy plateaus of Mexico. On very light soils manure or other humus-producing substances should be introduced to improve the moisture-holding capacity, while heavy soils should be lightened by the introduction of sand, lime, sheep manure, or bulky straw manure. Further treatment of Dahlias after planting consists of training them in one of two ways: (1) They may be allowed to develop unrestricted, a stake being driven to each plant to support the stem; or (2) the terminal shoots may be pinched out after three to four pairs of leaves are formed, this checking the terminal growth and producing heavy, stocky stems capable of self-support. This latter process naturally delays the blooming period for two weeks and removes the largest of the flowers, but by judicious disbudding the size of the other flowers may be increased sufficiently to serve all needs.

Thorough cultivation to conserve moisture is essential. A mulch of leaves, grass clippings, or well rotted manure may be used during the Summer for this purpose. Watering should only be practiced if done regularly, the ground being thoroughly soaked at intervals depending upon the weather. Mere sprinkling of the ground is deleterious, though spraying of the tops during particularly hot weather is beneficial.

After a killing frost in the Fall the stems should be cut close to the ground and the tubers carefully dug, avoiding the breaking of necks. After allowing them to dry for a day, the clumps should be stored in a cool, dry place, tops down. If the temperature is likely to rise much above 50°F. or should the atmosphere be too dry, they should be buried in moist sand, fine coal ashes, or sawdust. Excess of moisture should be avoided.

The diseases attacking Dahlias are of negligible quantity, the most serious being the powdery mildew, which, however, is readily controlled by spraying with sulphur or Bordeaux mixture.

A little more troublesome are the insect pests. In moist localities slugs are quite common, feeding upon the young shoots and often the buds and leaves. Hand capture at night is a common and successful method, while poisoned bran bait scattered at the base of the plants is quite effective, as is also naphthalene or lime. The tarnished plant bug is a serious pest at certain seasons, blighting or deforming the flower by piercing the bud at its base, or ruining the petals after opening. This small brown active bug is a sucking insect not subject to stomach poisoning and is so alert as to make contact spraying almost impossible. Covering the plants with close-mesh netting may eliminate the pest, which, however, disappears with the advent of cool nights. Red spider, and black and green aphis are readily controlled by contact spraying with nicotine extracts. Borers working in the stalks may be removed without much harm to the plant by splitting the stalk with a sharp knife and killing the insect.

Dahlia Seedlings.

Those who desire to save their own seed should now select the best blooms for that purpose, marking them in some way. A good method is by tying a piece of string or raffia around the stem. It takes quite a time for the seed to mature. When it is ripe the pod turns brown and becomes dry. It should then be gathered and further dried by exposure to the sun in a window or similar place, when a brisk rubbing in the hands will loosen the seeds. Growing anything from seed is rendered much more interesting by keeping track of the parents; an easy thing to do in the case of Dahlias, as one pod will produce many seeds.

If you are growing seedlings and intend planting the tubers next year, keep a record. Professionals do this by means of numbers, as to color and habit, so that you may arrange intelligently in the future, getting colors harmoniously neighbored and the tall flowers behind those of medium stature and the dwarfs in front. Keep in mind that you want to work for a dwarf habit of growth, also a bushy one, with blooms that look you in the face. Many beautiful varieties are droopy in habit and must be turned up for admiration. A stiff-necked generation is desired. The Dahlia of the future won't need staking. Another quality, that of keeping after being cut, is susceptible of being cultivated. The old, stiff, ball-like flower kept; some of the newer styled ones do also. Constitution, the ability to stand cutting, is indicated in Dahlias as in humans by a strong neck. Some of the most beautiful new Peony-flowered sorts are weak-necked. Bloom is not everything. The Dahlia foliage is attractive and can be made much more so. There is no reason why it should not be variegated. For massing effects, foliage and habit of growth are as important as quality of bloom. Possibly a cross might be effected between the garden kinds and the sea Dahlia, with startling results. The possibility is most entrancing when we think of the wonderful foliage and drouth-resisting habits of the latter and the admirable cutting quality of its blooms. It opens up a vista of glorified Shasta daisies in all conceivable colors.—A. D. Robinson in *California Garden.*

The American Dahlia Society.

The American Dahlia Society has engaged the entire conservatory and roof garden of the Hotel Pennsylvania, opposite the Pennsylvania Station, 32nd–33rd Streets and Eighth Avenue, New York, for September 27, 28, and 29, for the Annual Exhibition of the Society. The Exhibition will open on the evening of September 27 and close on the evening of the 29th.

The roof garden is used during the summer as a restaurant. It has good daylight on all four sides and the entrance is through the conservatory on the roof. The space is very large, something like 12,000 square feet in a long hall giving wonderful decorative opportunities.

A determined effort will be made to make this the largest exhibition ever given of any single flower. Plans will be rapidly perfected and developments will be stated later.

Edward C. Vick, Secretary.

Notes on the Hardy Chrysanthemum.

By John C. Wister.

[*Written expressly for The Flower Grower.*]

I was much pleased to see in the April issue of The Flower Grower Mr. Groschner's article on the hardy Chrysanthemums. I am glad to see that he thinks it is destined to become our third greatest perennial, and he has hit the nail squarely on the head when he states that the present lack of popularity for it is due to the fact that so many worthless varieties are offered in nursery catalogues.

This situation I believe to be due to the fact that breeding of Pompon Chrysanthemums has been carried on by professionals with a view to raising beautiful flowers to sell as cut flowers, and they are willing to grow these plants in the greenhouses in order to obtain these results. There can be no doubt whatsoever that the results in this line have been remarkable, and that the present day lists of Pompon and single Chrysanthemums contain varieties which are exceedingly beautiful, but the mere fact that they were bred for indoor growing has led the breeder to forget entirely the requirements of outdoor flowers. It is breeding such as this that has given us the variety *Lillian Doty*, to which Mr. Groschner refers. If we are to have beautiful hardy Chrysanthemums in the garden our amateurs must take a hand either in breeding these flowers for the conditions under which they are to be grown, or they must create a demand for them which will induce professionals to do this breeding.

I can agree fully with Mr. Groschner in his statement of the disappointment which follows when these modern varieties are planted outdoors, and when the early frost or heavy rain storm spoils their beauty. I have tried during the last ten years well over 300 varieties of Chrysanthemums outdoors, and of all these I have at present not more then 25 left which have proved hardy, and what is still more important to have flowers which are able to resist frost and which are not spoiled by heavy wind-storms or the soaking rains that we are apt to get in October. To mention but a single example, I have tried nearly all the white varieties which are listed in catalogues prior to 1917, and out of all of them I found only one *Maid of Kent* where the flower is not browned by the first frost. In favorable seasons such as last year it is true that *Diana, The Hub, White Lillian Doty* and others will open their flowers perfectly outdoors, but such a season as 1919 comes not more than twice in a ten year period, and in all ordinary years a frost the middle of October will ruin such tender flowers.

I have tried also the so-called September blooming varieties and have found them a great disappointment, first, in that they do not bloom in September at all, and secondly, that they are poor growers and lack hardiness. Of all the varieties of these that I have tried I am retaining only a *Normandie, Yellow Normandie, Goacher's Crimson* and *L'Argentullais.* These bloom early enough in October to make them a decided acquisition, but they are not as hardy as the later blooming ones, and from present indications all plants of them left out the past winter are dead. This brings me to another important point and that is; are any varieties of Hardy Chrysanthemums really hardy? Every winter some of my plants have been killed and from present indications nine-tenths of the stock which I left outdoors last fall is dead and I have word that all Chrysanthemums in a nearby garden have been killed. We have always regarded here that the only absolutely hardy varieties were the old fashioned *Baby* which blooms too late to be satisfactory, and *Brown Bessie*, and one or two others of the small button varieties. If what I have said about the lack of hardiness of these plants is not true in other sections, I would be glad to learn it, but from what I have seen I think that there is room for a great selection for hardiness.

I hope that Mr. Groschner's article will call the attention of garden lovers to the good and bad points of various Chrysanthemums, in order that a more intelligent selection of them may be made in the future.

Sobarias.

The Sobarias are better known under the name of Spiraea and the one most commonly listed in the catalogues is Spiraea *sorbifolia.* They are a handsome genus of flowering shrubs and it is really a wonder they are not more often met with in shrubbery plantings.

The planter is usually concerned more about a plant's general appearance and time of flowering than botanical differences. Some of the points in their favor that should commend them to the gardener are: They are adaptable and vigorous in their growth, sometimes too much so, as they spread rapidly by means of suckers when the position suits them. They flower during the summer when there is a dearth of bloom on the average shrubbery border. A moist, partially shaded position suits them, and it is often difficult to select a shrub for such a place that will be so much at home. The foliage is rich and handsome and due to the habit of growth usually clothes the plant to the ground.

The one fault, if it be a fault, is the unsightly appearance of the dead panicles when the bloom is past. These, however, are easily removed which gives the plant a longer season of good appearance than most flowering plants.

The different kinds are all much alike in habit but flower at different times. The first to bloom is the *Sobaria sorbifolia,* which comes in June, followed by *S. stellipilla, S. asurgens, S. arborea* and, last of all, *S. Aitchisonii* in September.—*National Nurseryman.*

The demand for the finer varieties of flower stocks of all kinds has been without precedent this season. In fact, some things were sold out before January 1st and because of the extreme scarcity prices naturally have been somewhat advanced.

Some of the Newer Peonies.

By W. F. Christman, Secretary of The Northwestern Peony & Iris Society.

[Written expressly for The Flower Grower.]

THE CONSTANT quest for something new seems to be inherent in every creature. We may possess, as many of us do, large representative collections of the best existing varieties; but with the coming of spring there is aroused within us that desire for further acquisition, and as the beauties of nature unfold with the advent of April showers and are further enhanced by the smiling sunshine of May and early June, there is no diminution in our zeal.

We are anxiously awaiting the full development of some of our rarest beauties that we will probably gaze upon for the first time, and there is a subdued expectancy that has about reached the breaking point as we perceive the swollen buds about ready to burst forth in full bloom. Judgment is about to be passed upon our carefully nurtured strangers and comparisons made with those that have stood the test of time against all competitors. It may be that disappointment awaits us; alluring descriptions not having reached our fullest expectations and we find our new acquisition only commonplace.

Peony, *Grace Loomis*, originated by Prof. A. P. Saunders, Clinton, N. Y.

Let us not be too hasty in our judgment for perhaps another year they may fulfill in every way what we had hoped for. I wish to emphasize very forcibly the thought that we must not be too hopeful or expect too great things from the first year's planting, for rarely indeed, can any Peony do itself justice under such conditions, especially in rare varieties where the divisions have been made exceedingly small. It has doubtless taken years to bring to perfection, or to fully develop the latent powers possessed by the particular variety you may be interested in, so why not be willing to exercise patience for at least two blooming seasons, or even three, if need be, to let the plant get fully acclimated to its new environment. It is not ephemeral but year after year should more clearly prove its worth. Let us satisfy ourselves fully that we have given the plant every care for the full development of its possibilities before we pass final judgment. Should disappointments arise, as they are apt to do, we find that they are only transitory, and we cannot help but admit to ourselves, at least, that a life without some disappointments has not come to the fullest realization of its powers, as defeated hopes quite often prove to be stepping stones to better and broader development of our natures. Personally I feel that a great deal of unsatisfactory results are due to the fact that many of the divisions sent out are of such exceedingly small size that it takes an unusual length of time to get results. I fully realize the temptation to produce as many divisions as possible, but I think these minute divisions have a tendency to reduce the vitality of the plant considerably, especially if the practice is continued for any length of time.

Each year as we scan the various catalogues we come across some new variety that is being offered possibly for the first time, and if we have the means of acquiring them and the room to properly care for them, why should they not be added to our collection and given a trial? There are many reputable growers who each year try out many of the newer sorts and will not offer them to their customers until they have satisfied themselves beyond the shadow of a doubt that they have merit and are worthy of dissemination, and we are, therefore, relieved of the expense of acquiring and the suspense of waiting any extended period to determine their worth. However, many of the new creations are not to be found in catalogues as yet, and quite likely a number will only be offered by the originator, as it will be some years before they appear in trade catalogues.

Those of us who cannot afford the expense of securing some of the newer and rarer sorts at present prices will have to be content until the stock is sufficiently propagated to admit of our procuring them, but this need not lessen our desires in the least, in fact I think it kindles within us a more determined effort of acquisition. After all we are simply children, grown up perhaps, but still possessing the traits to be found in our youngsters of wanting something we can't have, and when we find the price is prohibitive on some fine variety that we are particularly interested in, we at once set about to work out a plan that will permit us to realize our ambitions and gratify our desires in securing our coveted prize.

I think we can well afford to dispense with some of the older, commonplace varieties and give room to the more up-to-date creations that are constantly finding their way in the front ranks of the better class of Peonies. True, we cannot well dispense with some of the old favorities that have proved their worth for many years past and will continue to hold a high rank for years to come, but many of us are not familiar enough with the newer Peonies of the present day that may be acquired from various growers over the United States, to say nothing of European growers, and it was with this view in mind that I have prepared this article.

It is not intended to cover *all* the new Peonies that are on the market, or may be offered on the market in the near future, but I think it will be found to represent a large number of the very best of the new ones being propagated at the present time. Some of the varieties mentioned are not as yet for sale, a stock sufficient to permit offering them to the public being too limited, but they can be kept on your waiting list, and when you visit the Peony exhibitions this spring, you will doubtless find some of them on display.

These descriptions have been made as brief as possible and in most instances have been furnished by the originators. Some of the Peonies originated within the past few years are not as well known as they should be and are noted below. I have not included foreign originations as a separate article could be written on this subject alone. I am satisfied that as good Peonies can be produced in the United States as any place on earth, as tests and comparisons have demonstrated. I am not unmindful of those wonderful varieties, *Le Cygne, Therese, Solange* and several other masterpieces that are foreign creations.

Recent originations by T. C. Thurlow & Sons, West Newbury, Mass:

Cherry Hill—(1915.) Dark garnet, large rose form, not wholly transformed as flowers on young plants and side blooms often show stamens. Tall, 3½ to 4 feet. Especially good garden variety. Early midseason.

Pride of Essex (1916.) Large, full blooms of fine form; petals broad and of good substance. Deep shell pink changing to delicate French pink as flower develops. In bud resembles *Lady Alexander Duff* but open flower does not show stamens. Midseason.

President Wilson—(1918.) Soft rose pink changing to shell pink as flower opens. Guard petals sometimes show crimson markings. Center petals very short, somewhat lacinated, gradually increasing in length outward, producing a cup-like effect. Fragrant. Late.

The flower on either side is that peerless white *Francis Willard.* The central flower is *Mary Brand*, one of the best reds in existence. These two varieties are among the choicest of Mr. Brand's originations.

Nynphaea (1919.) Large, flat flowers with wide silvery petals of delicate creamy white, notched at tips and edges somewhat rolled; yellow stamens in center and a reflex of yellowish light throughout the whole flower. Midseason.

James Boyd—(1920.) Flesh, changing to nearly white, tinted at base of petals with yellowish salmon. Guard petals sometimes touched with carmine and green. Petals notched at tips giving a fringed effect. Fragrant. Late.

James R. Mann—(1920.) Large, full flowers of deep rosy pink with an occasional stripe of carmine in the center of petal. Petals long and broad, edges rolled and ruffled giving a crimped effect. Midseason to late.

A. P. Saunders—(1920.) Large, flesh white flowers, changing to nearly pure white in center, guard petals sometimes marked carmine. Petals very long and curved giving an effect of a magnolia bloom; center petals form a ball until flower is well developed. Late.

Edwin C. Shaw—(1920.) Clear rose, nearly even color throughout although guard petals are sometimes streaked with carmine. The petals are wide and well formed and the total effect of the bloom is smooth and well finished and of beautiful color. Late.

Thomas C. Thurlow—(1920.) Salmon flesh fading to white. Guard petals flesh white curve back showing heavily fringed collar of narrow petals intermixed with yellow petaloids, the inner circle with yellow edges surrounding a cup shaped center at the bottom of which the central golden filaments intermixed with short flesh colored petaloids are a marked feature. Late. Extra.

Recent introductions by A. M. Brand, Faribault, Minn:

Mrs. A. G. Ruggles—(1913.) Large to very large, flat semi-rose, ground color white, delicately suffused with lilac. Flower opens out flat. Petals long and fringed. A charming flower.

Old Silver Tip—(1918.) Very marked silver effect on edges of petals as blooms open giving beautiful, irridescent effect to color which is a soft madder-red. Profuse bloomer, semi-rose type. Flowers large. Midseason.

Helen Wolaver (1918.) Flower medium size, rose type. Prominent stiff sea shell pink guard petals more or less splashed with a deeper pink. Buds closely resemble rose buds. Rose scented. Does not come to perfection until grown on four year old plants.

Faribault—(1918.) Rose type entirely transformed. Color deep rose with a silver sheen. Collar trifle lighter than the guards. Center petals silver tipped. Fragrance mild. Habit of plant good, medium height and compact. Free bloomer. Large flower.

Brand's Magnificent—(1918.) Plant medium height, midseason. Profuse bloomer. Blossom semi-rose. Petals all large like those of a rose. Color deep, dark red with bluish cast. Very striking because of beautiful form of flower, prodigality of bloom, its great, broad, symmetrically arranged petals and magnificent color effect.

Victory Chateau Thierry—(1919) An immense flower of soft, even shade of pink. Flowers produce on stout, medium length stems which hold the great blooms rigidly erect. Foliage large and clean. Petals uniform in shape, very broad and evenly rounded on the edges. A very beautiful and distinct Peony and one of the best of the Brand creations.

Myrtle Gentry—(1919.) Type not definitely established but probably rose. A very beautiful Peony resembling a first class bloom of *L'Indispensable* in shape size and color, but not subject to water-logging as is that wonderful variety. Large, symmetrically formed blooms produced on long, stiff stems. When cut in bud and developed inside has the wonderful coloring of *Tourangelle.*

Desire—(1920.) A beautiful flower of very delicate coloring. Flower medium size. Semi-rose type. Habit of plant good with flowers held erect. Color clear, delicate lavender flesh. Petals long and rather loosely arranged. A very dainty flower of good substance.

Mellin Knight—(1920.) A splendid, tall growing, straight stemmed single, with beautiful, long, nicely shaped and regularly arranged petals of a clear crimson color. Considered by Mr. Brand the best single of its color he has ever tried in twenty-one years experience of raising new seedlings.

Harriett Olney—(1920) Another tall growing single of good plant habit and a very profuse bloomer. Very large flowers of a clear deep pink or rose. Petals long and evenly rounded on edges. Tested for ten years and every year marked A-No. 1.

Edith West—(1920.) A splendid white single. Plant of medium height, well furnished with clean, light green foliage. Petals large, clear, pure white and of splendid substance. Entire form of flower very attractive to the eye. Good bloomer. Tested for past twelve years and always marked first class.

Some of the newer Peonies originated by Mr. E. J. Shaylor, Auburndale, Mass:

No. 70—(Shaylor.) Very early, double pink. Past three years bloomed earlier than any double one in the garden. Past year opened 6 to 8 days before any of the earliest doubles. Free and profuse bloomer.

Cornelia Shaylor (Formerly *No. 65.*) Large plume shaped pink flower. Very full, tall growing. Extra deep, glossy foliage. Blooms about a week later than *Mrs. Edward Harding*, the prize winning white.

Mrs. Shaylor Force—(Formerly *No. 81.*) Delicate canary yellow with the yellow diffused all through the body of the petals, possessing the delicate color which we often see down deep in the heart of some flowers. This is a new, delicate canary yellow.

Aureolin—A stronger yellow than *Mrs. Shaylor Force* with pink outside petals, tall and showy. Very marked in its appearance in the Peony patch. Created a very favorable impression at Massachusetts Hort. Society where exhibited.

Mrs. Shaylor (1919.) Tall growing, cream colored white. Very large and long, wide petals, loosely set giving it a very distinct appearance. Shape of flower like *Phyllis Kelway.*

Will McClelland—(1919.) Brilliant pink. On order of *Walter Faxon*. A tall grower and very noticeable from a long distance among any lot of Peonies.

Mrs. Edward Harding—(1918.) A magnificent white of exceptional quality. Originally *No. 35.* First exhibited at Cleveland, Ohio, at the American Peony Society's display, where it received 1st prize for best new seedling. A charming flower.

Among other exceptionally fine Peonies originated recently by Mr. Shaylor are to be found *Shaylor's Dream, Mrs. Mary Woodbury Shaylor* and others.

A. B. Franklin, Station F., 58th St. and Wentworth Avenue, Minneapolis, Minn., has contributed the following seedlings:

Mabel L. Franklin—(1919.) Full rose type, color two shades of light pink perfectly blended. Outer petals of lighter pink than center of flower. Very large bloom of enchanting fragrance. Inner petals delicately margined at edges with lavender. Stems long and stiff. Exceptionally free bloomer and desirable in every way.

No. 7—Full double, rose shape. A very unusual shade of red. Has no lustre. Medium tall, good grower and bloomer.

No. 11—Large, full double, rose shape. Light pink. Upright grower, stiff stems, free bloomer. Foliage similar to *Festiva Maxima* but larger leaves.

No. 36—Full double, high rose shape. Delicate blush pink. Strong, upright grower. Sure bloomer. Fragrant.

No. 112—Large, rose shape flower, light pink. Medium height. Extra good multiplier and bloomer.

No. 171—Light shell pink, semi-double of the water lily type. Good grower producing a mass of bloom.

No. 406—Very dark red. Similar to *Mons. Martin Cahuzac* though a shade darker. Very desirable, attractive flower.

Prof. A. P. Saunders, Clinton, N. Y., Secretary of the American Peony Society has originated the following list of seedlings:

Grace Loomis—Tall, late white, very full double and vigorous grower. Very full, fragrant flower. Something like *Mireille*, but much better than that variety. No roots to offer before 1921 delivery.

No. 365—On the order of *Mons. Martin Cahuzac*, perhaps a trifle darker. Bloom better filled out, more double with fewer stamens. Plant vigorous with heavy stems. Good habit, medium height.

Silvia—(Formerly named *Wild Rose.*) Light pink, semi-double, lighter toward the center. A very finished and decorative semi-double. A great bloomer, rather dwarf, early. Always attracts unusual attention when shown.

Other seedlings of merit originated by Prof. Saunders are his *No. 362, White Wings* and *Grace MacLean.*

Mrs. Wm. Crawford, No. 1602 Indiana Ave., La Porte, Ind., has given us the following new seedlings:

Donald Crawford—Medium size, bomb type. Outer or guard petals cream white, high center of clear yellow, sometimes overlaid with a sheen of frost-like appearance that smiles in the sunlight. Sturdy growth, strong, upright stems. Blooms in clusters. Fragrant. Not in commerce.

Rosalind—Mauve pink, very double, rose type. Free blooming in clusters.

Governor Morton—(Teas.) Clear madder red, rose type, free bloomer. Petals tipped on edges with a silvery reflex giving an irridescent effect. New in color and a desirable acquisition. (Note;—Mrs. Crawford has entire stock of this variety.)

C. Betscher, of Dover, Ohio, has furnished me with the description of one of his finest seedlings as follows:

Modella—Opens blush white, changes to pure white. Sure bloomer, every stem producing a flower. Rather dwarf, vigorous. Very best habit, good grower and divides well. Full built flower, no stamens.

Mr. H. P. Sass, of Washington, Neb., sends me a photograph of a new seedling, *No. 28*, a cross of *Mons. Jules Elie* and *Asa Gray*. Very large, pure white flower with no blush or crimson markings. Perfect rose type. Free bloomer. Stems tall, 36 inches. Not in commerce.

Mr. E. P. Wheeler, of Rockland, Massachusetts, gives us the following list of seedlings:

*Edith Forrest**—(Wheeler.) Rose type, very full and double. Color bright pink. Strong grower, fine form, exceedingly free bloomer. Tall, with large, strong stems that hold the flowers firmly erect without any tendency to droop. Exceedingly fragrant. Midseason.

*Rose Standish**—(Wheeler.) Bomb type, very large size. Extra strong grower. Color dark pink, slightly silvery on edges of outside petals after being open a few days. Extra fine form, free bloomer in clusters. Strong, deep green stems, tall. One of the latest to bloom, coming the last week in June and as late as the first week in July. Slight and agreeable fragrance. One of the most double peonies in existence.

Annie Louise (Wheeler.) Rose type, medium size plant and flower. Shell pink, fading to white in the sun. Very free bloomer with strong, green stems. Midseason. Should be cut as soon as bud begins to open and taken inside for best results.

Mr. John Lewis, of Copenhagen, N. Y., has originated the following named and numbered varieties:

Mrs. John M. Lewis—(Lewis.) Rather tall and slender grower yet stems are strong and support the blossoms splendidly. Free bloomer. Color the richest, deep crimson maroon with an extremely brilliant satiny sheen. Petals of great substance and stand the hot sun remarkably well. Also possesses unusual endurance as cut flower. Well grown flowers from five to six inches in diameter with an even greater depth. Possesses a pronounced and pleasing fragrance. (Note:—Understand this will be disseminated by Mr. Bertrand H. Farr of Wyomissing, Pa.)

No. 24—(Lewis) Medium sized, rose shaped flower. Very free bloomer. Color lavender pink. Extremely sweet fragrance.

No. 17—(Lewis) Large full flower. Brilliant crimson in color.

No. 40—(Lewis) Large rose shaped flower, deep rose pink. Very rich coloring.

No. 23 (Lewis) White with crimson edge to petals. Very fragrant. Extra late. (Note: The above numbered Peonies by Mr. Lewis will be given further tests this coming June and a more detailed description will be furnished.)

I am gratified indeed at the large number who are giving time and attention to the creating of new varieties, and have every reason to believe that in succeeding years, as in the past, there will be developed many new Peonies of exceptional merit. That it requires unlimited patience, perseverance and undaunted courage is a proven fact, and I think might be well summed up in the following quotation:

> "Nothing one does, if he does it well,
>   Is easy and simple and quick and light—
> The task of life is a difficult task,
>   To do it well and to do it right.
> Nothing comes easy, the strife is hard,
>   But the thing worth doing, ah, that repays
> For the ache and grief and the dust and grime
>   And the infinite pain of the toiling days."

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*The varieties *Edith Forrest* and *Rose Standish* were seedlings received from Mr. Geo. Hollis and named by Mr. Wheeler.

A section of the twelve acre field of Peonies of the Brand Nursery Co., Faribault, Minn. Four hundred and eighty named varieties were found here. These were planted in rows some thirty rods long, and the great fields, banded with every shade from the purest white to the darkest crimson, were a sight to be long remembered.

The Grafted Cactus.

[Written expressly for The Flower Grower.]

Among my large and varied collection of house plants, none attract more attention than my plants of grafted Crab Cactus or Epiphyllium. I have been much amused when visitors seeing them, inquire how I trained them to grow that way. The cuttings of the Crab Cactus are easily grafted to a stock of Pereskia or Cereus by cutting a wedge shaped piece from the top of a rooted cutting about eight inches high, trimming the cutting to a wedge shape and inserting in the prepared stock. Fasten them firmly together with a large cactus spine or by tying tightly with raffia. The cutting will branch and form a drooping globular head supported by the straight stock. Grafted plants are very beautiful when in bloom and they bloom profusely. They do not occupy much space and are not so sensitive to over watering as when grown on their own roots. I have four varieties which give a succession of bloom through the fall and winter. The first one blooms in October and is a deeper carmine pink than the Xmas Cactus. The next is called in the catalogues Truncatum, but it is not like the Xmas Cactus which is also called Truncatum. It blooms at Thanksgiving and has large flowers of a brilliant red color. The next is the true Xmas Cactus which always blooms at Xmas time.

Last comes a variety called Makoylanum which is in bloom at Easter. The flowers are light scarlet and appear not only on the tips but also grow out from the sides of the joints.

Mrs. F. A. Lorenz.

American Gladiolus Society.

ADDITIONAL PRIZE OFFERS FOR NEXT ANNUAL FLOWER SHOW.

OPEN CLASSES.

M. F. Wright & Daughter, Sturgis, Mich.

Best 3 spikes *Louise*. First prize $10.00; second prize $6.00; third prize $4.00.

Richard Diener Company, Kentfield, Cal.

		1st	2nd
Best spike	*Mrs. Wm. Kent*	$3.00	$2.00
" "	*Anna Eberius*	$5.00	
" "	*Diener's American Beauty*	$5.00	
" "	*Jack London*	$5.00	
" "	*Richard Diener*	$5.00	
" "	*Thomas F. Kent*	$5.00	
" "	*Diener's White*	$5.00	
" "	*Mrs. H. E. Bothin*	$5.00	
" "	*Mr. H. A. Hyde*	$5.00	
" "	*Mrs. John A. Walsh*	$5.00	

P. Vos & Son, Mount Clemens, Mich.

Best 3 spikes *Maine*. First prize, $15.00; second prize, $10.00; third prize, $5.00.

Homer F. Chase, Wilton, N. H.

Best 6 spikes *Christine M. Kelway*. First prize, $5.00; second prize, 20 bulbs of that variety.

NON-COMMERCIAL CLASSES.

Arthur Cowee, Berlin, N. Y.

Largest and best display of *Primulinus Hybrids*. Offers as a prize 100 extra selected *Primulinus Hybrids*.

A. C. Beal, Sec'y.

American Gladiolus Society Needs Prize Offers.

Those who are interested in promoting the advancement of the Gladiolus in the United States cannot do better than to donate liberally toward the prize fund of the American Gladiolus Society for their next annual show. The annual show of the society is the big event in the Gladiolus world. Secretary Beal has appealed to Gladiolus growers for donations of prizes. Although he suggested that prizes should consist of cash or trophies, we believe that flower stocks, if offered in sufficiently liberal quantities, will be acceptable.

Those who have not taken advantage of the opportunity to send us new subscribers at the special clubbing offer as per circular letter which we sent out in March, please note that this offer is good until July 1st. Those who have already sent in clubs of three or more new subscribers may send in additional names singly if desired at the special rate until the date above stated. We also want more names and addresses of flower lovers.

Odds and Ends From the Garden.

Continuous Color in the Border.

A flower border is an attractive thing, but a difficult affair to keep in display from early spring until late frosts. In England, wide borders are not unusual, but in America the narrow ribbon is an every day affair, they are not only ordinary, but difficult to arrange for succession of bloom. In fact without the use of annuals no great play of color is possible. The one I have in mind is most successful in this respect, there is a strip perhaps five feet wide at the edge of the lawn, behind, a hedge of mingled shrubs where Golden Bell blooms in earliest spring, is followed by the willow leaved Spirea and Mock Orange while in winter there are brilliant coated berries of the bush Bittersweet and the red haws of a wide rambling Rose. Against such a background I have clumps and clusters of sturdy perennials forming an irregular edging, with open spaces for early bulbs, for annuals, and for spiry groups of Gladioli in their season. The big perennials, Peonies, a few late Phlox, Larkspurs, and an odd evergreen plant, or so, give substance at all times, and some bloom between flowering of Tulips and the earliest Bachellors' Buttons. They are all easy growers but it takes a certain amount of care to keep apart the spaces for bulbs, or food-demanding seedlings, both planted in long irregular bands and I must acknowledge that now and again I spade up the ground in some bulb crowded place. Many of the annuals I raise in the vegetable garden and transplant; Forget-me-nots and Johnny-jump-ups I use with the early Daffodils; each in its place and so rampantly do they seed that it is merely a matter of transplanting to the most needed site.

Many are the possibilities of combination, but two or three have proved particularly successful. One a group centered about the double flowered Babys Breath which with its strong deep-reaching tap-root permits of close planting of the odorous Crown Imperial with its tawny diadem and in front a group of late flowering Gladioli. In April yellow Crocuses form a broad band next to the grass, a little later Jonquils interspersed with the blue of For-get-me-nots, with June a near-by Larkspur in blue with a white eye, towers above the pale yellow of Marguerites. Both these carry on until almost August and even later when the pink of Gladiolus *America* rises above the misty Gypsophila with a touch of color that repeats the tones of carefully raised Nemesias. These last are fascinating things, a little touchy as to handling, but worth a trial, pale blue, pale yellow, and pink and misty white; all charming.

Further on where the encroaching mock-orange makes a bay I have a less placid combination, flaming Red hot Pokers and cream Gladioli, and a bit of carefully selected Phlox, intermediate in tone. I shall not venture to give the name for both Phlox and Tritoma vary much in color and I might lead you into difficulties. It is a risky combination at best, many were my failures, but now it is just perfect.

Among the annuals I like Arctotis for general use, its shadowed starry flowers and gray foliage are always good, the husky Calendulas carry well through the first light frosts while sweet Alyssum, though ubiquitous, has a similar value, the terra-cotta of Calliopsis is also effective whether in garden or vase and who does not like the golden silk of California Poppies. In such a border it is well to keep to comparatively few varieties, few colors, soft hues predominate with only here and there, one at a season, a thread of brilliant contrast.

Gladioli have a wonderful individual beauty, but I find them very difficult to use to advantage with my hardy perennials and, however, I appreciate them in the house they are a restless element in a border. Nothing could be lovelier than a straight row in the vegetable garden, but it is such a prosaic place for beauty, that I try to find available spots that can be well prepared in the garden proper, I plant the bulbs deep and close together in small groups and plan for succession of bloom rather than a mass. The *Primulinus Hybrids* with their wonderful range of color seem less stiff and more in accord with other plants, but no one could expect more in the way of color. With the second blooms of Larkspur, with white Lilies, with loosely panicled Phlox or Aster wands they may be delightful, but I am a mere amateur with Gladioli, you who know the best should have many suggestions to offer.

R. S. Barre.

Growing the Poinsettia.

By Ernest Bisson.

[*Written expressly for The Flower Grower.*]

In the "Flower Grower" for February I noticed a paragraph asking for a brief article on the culture of Poinsettias.

The Poinsettia is a native of Mexico and should not at any time be subjected to a low temperature, 65° at night is about the best temperature.

A good way to start with Poinsettias would be to procure small plants in 2½" pots about the middle of May and grow them along in a light warm house repotting them to 4" pots as soon as they have filled the small pots with roots, and later potting them in 6" pots. The final shift should not be done later than the first week in October as they will certainly lose their leaves if shifted after the bracts begin to form. Grown along in a night temperature of about 65° they will flower nicely for Christmas.

Poinsettias are subject to the mealy bug and green fly but this can be controlled by weekly fumigations and syringing on all bright days.

Poinsettias can be grown for cutting by planting thrifty young plants from four inch pots, about August 1st, into a bench with about 4–5 inches of soil. Grown in this way the stems are longer and bracts larger than when grown in pots.

When cutting Poinsettias take a vase or pail of hot water into the greenhouse and immediately put in the stems as soon as cut, removing in two or three minutes to cold water, this will prevent wilting.

To carry over for another year or to propagate, in January, the pot plants should be gradually dried off and put under a bench in a warm green-house where they can be kept absolutely dry till about the middle of April. Then they should be brought out and shaken from the old soil and repotted into smaller pots, and any dead wood should be trimmed out at this time. They should then be placed on the bench and be well watered and kept syringed, and in two or three weeks they will have made a fine lot of cuttings.

Cuttings of the Poinsettia can be taken off and rooted in pots or pans filled with clean sand. They root more freely if kept rather close in a small propagating case, or box with a sheet of glass laid over the top. As soon as they are well rooted, pot into 2½ inch pots and keep close and warm until they begin to root into the soil. The best soil is a good turfy loam, with about one-fourth of well rotted cow manure, and a small quantity of sand. When potting into their final pots the addition of about a four inch pot of bone meal to the bushel of soil will be a great advantage.

The Poinsettia.

As I am wintering in the Sunny South and not in the land of snow and ice, having my valued "Flower Grower" sent to me from my home, will give you some information as to growing the Poinsettia. It grows here in Florida in abundance forming shrubs which some times tower above the roofs of bungalows. Two years ago I took home with me a few cuttings. Cuttings must be taken from the lower part of stalks and not from the tips. They were in water until my return home the latter part of April. The time for pruning is about the last of February, when the blooming time is just going by. I gave a cutting, which had thrown out a few little roots while in water, to a friend who grew it out of doors in a large pot bringing it in when cool nights came on. She had a beautiful plant of nine blossoms. After they were gone she pruned it back "severely" and placed it out again in the summer with the result that last November, when I left my home the plant measured over two yards around and was about four feet tall with a promise of eleven large perfect blooms. I am rooting a lot of them to take home with me.

F. B. C.

We regret that this month Mrs. Autin's Talks were not received in time for publication. She has been in California and we have had no definite news from her for several weeks.

"Say It With Flowers."

By Harmon W. Marsh.

[Written expressly for The Flower Grower.]

IF THE sentiments expressed by Mrs. Bellamy, on page 50 of the April issue of The Flower Grower were general and carried to their logical conclusion most of the commercial flower growers would soon be bankrupt. I don't agree with her in the least and believe that her article will draw a protest from the majority of the readers of the magazine.

To begin with, I don't believe flowers can be cheapened. Except in a few cases they are always appreciated and a gift of flowers is often remembered by the recipient long after the donor has forgotten it. There is a sentiment connected with blossoms that very few people can escape.

I rather dislike the few flower beggars I have encountered, but must confess that were it not for the pleasure of giving flowers my interest in gardening would suffer severely. I have given away flowers, seeds, plants and bulbs by the thousands, and almost universally they have been received with appreciation. The gifts have extended over a wide range, from the very poor, or flat dwellers, who were unable to raise their own blooms, through all classes to some of the wealthy, who were abundantly able to buy or grow in any quantity desired.

A little old lady, well gowned and with a bright intelligent face passed my little place one day and became interested in a group of Gaillardias that bloomed close to the sidewalk. I was busy in the back of the lot, but walked forward and spoke to her. She wanted to know the name of the flower, which it seemed she had never seen before. I not only told her the name, but filled her hands with blossoms and harvested a packet of seeds for her. To judge by appearances, she was in very comfortable circumstances, quite able to purchase all the flowers she wanted. I never saw her before nor have I met her since that day, but the recollection of the appreciation in her face has lingered, a warm spot in my heart.

And the children—I am always giving them flowers. Aside from the pure pleasure of it, there is an element of protection. My little garden is easily accessible from the street, no fence or hedge. I should judge that there are some fifty children in our immediate neighborhood, but they rarely ask me for flowers, they are careful where they plant their little feet and I have no pilfering to complain of.

When a pretty young lady comes our way it is a delight to pick out some shade of color that will match her gown. I will never forget one particular occasion when a big bunch of Marigolds set off a costume to perfection and I know that the happy combination of handsome young woman, dainty gown and golden blooms attracted all eyes as she went down the street.

The elderly ladies are my sincerest delight. Perhaps it is because they have passed the age when gifts of flowers were common and a bunch of beautiful blooms warms their hearts with recollections of the days of youth.

From whom do the commercial growers derive their largest profits? Not from the people who buy their own flowers, I'll warrant. The profits come from the posies sent out as gifts; from old and young lovers and admirers and friends who find in flowers the surest medium for expressing their love and friendship.

A couple of years ago, four of us made an automobile trip up to Goshen, Indiana, especially to see the Gladiolus farm of Mr. A. E. Kunderd—and we didn't go to buy. There were two ladies in the party and Mr. Kunderd loaded them down with beautiful blooms. Was there any lack of appreciation of his kindness? I should say not. Those flowers were carried a distance of 180 miles in the ladies' arms and carefully placed in water at the end of the journey. They freshened up and were a joy for nearly two weeks, and the gift has been gratefully remembered.

I not only find keen pleasure in giving flowers to neighbors and friends, but have taken the trouble to carefully pack and send by parcel post several packages of choice blooms to friends in distant cities. I even find a number of men who appreciate gifts of flowers. I suspect that while they are receiving them they are thinking of how a certain pair of eyes will brighten when they pass them along, but their own appreciation is self-evident.

No, I do not agree with Mrs. Bellamy. When I can't give away the blossoms that reward my toil, when I can't gratify myself by sharing my pleasure in them with others in a more substantial manner than just letting them look at them, then I will be ready to seed down my garden with grass and make a playground out of it for the kids.

St. Thomas Horticultural Society.

The St. Thomas Horticultural Society conducted a "short course" on "Home Beautification and Vegetable Gardens" on March 8th and 9th. Fourteen lectures were given in all, eight to some 1500 school children who are taught agriculture and the remaining talks to adults. A. H. Tomlinson, lecturer on Landscape Gardening, and Wm. Hunt, lecturer on Floriculture at the Ontario Agricultural College, Guelph, A. H. McLennan, Vegetable Specialist of the Department of Agriculture, Toronto, and W. E. Saunders, Ornithologist of London, were the speakers. Mr. Saunders' talk was illustrated by innumerable varieties of stuffed birds, and the other lectures by lantern slides and moving picture films. Every lecture was a gem and the course received the unqualified endorsement not only of the adults but of the children. It might be of interest to readers of The Flower Grower to know that all the public schools of St. Thomas have qualified agricultural teachers and school gardens. Poultry raising is a popular subject, incubators being furnished by the board of education. In the fall the results of the summer work are exhibited at a large school fair.

NOTES.

The Society is busy at present on a canvass for 3000 members and a popular fund of $2,000, one-half of which is already subscribed. A landscape gardener has been employed to supervise the Society's planting and give advice to the members at a nominal fee. So popular is the idea that the services of several specialists are really needed and the demand for nursery stock is unprecedented.

At a meeting of the executive committee held on April 5th, it was unanimously decided to send an exhibit to the American Gladiolus Society's show to be held in Boston in August. All plans had been made to attend the show at Cleveland. On account of the distance to Boston only a small delegation will go, but we hope to send an exhibit worthy of "The Flower City."

Another matter of importance was dealt with. It was decided to secure a number of color plates illustrating beauty spots in St. Thomas, these to be printed on the backs of 300,000 envelopes which will be sold at cost to the merchants.

The annual distribution of premiums to the members is being made. Some 3600 Roses in 50 kinds, 2,500 shrubs, climbing vines, rare conifers and ornamentals; thousands of Gladioli including the best varieties of Kunderd's, Decorah Gardens, Diener's, Austin's and Holland stock. Peonies and perennials are also available.

F. E. Bennett, President.

Seasons for Planting.

Considered from the standpoint of a plant, the act of transplanting is a violent one and consists of stopping at once a large part of its vital activities and generally causing the loss of a considerable part of its root-system. Therefore, transplanting should be accompanied by precautions to prevent too great loss of moisture from transpiration and to insure that the plant will become reestablished at the earliest possible date. Seeding differs from transplanting in that a seed is a ripened embryo which is a minute but complete dormant plant. As the entire process of germination includes the making of a vital connection between the young plant and the soil sufficient to enable the plant to produce green tissue and support itself, seedage must also be surrounded by precautions to insure that proper conditions exist. One of the most important factors in transplanting or seeding is choosing the proper season, because upon the successful start of the operation hangs the whole future of the plant.—*Landscape Architecture.*

Gladiolus growers will be especially interested in the statements made in our advertisement of bound volumes of The Modern Gladiolus Grower and The Flower Grower in our advertising pages this month.

Queries and Answers Department.

"All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication."

Building Up Sandy Soil for Gladioli.

To the Editor:—

Please advise the best method of applying fertilizers to Gladioli. If pulverized sheep manure or good potato fertilizer is used how much should be applied per acre? Should it be put on in one or more applications where the soil is rather a weak pure sandy soil almost free from humus? Should it be applied in the row or broadcast on the surface? If in the row should it be put under or above the bulbs, and will it injure the bulbs by direct contact? E. A. B.

Answer:—Pulverized sheep manure or potato fertilizer is all right enough as a fertilizer, but it will not take the place of humus in the soil, and your first step should be to provide humus. You can doubtless buy stable manure by the load, and if you cannot get it well rotted buy it as you can get it, and make a compost of it by piling up in a flat top pile so that the rains will leach through it and keep it from burning or heating. Manure handled in this way and forked over twice or three times during the year will be in good shape in from six to twelve months from the time of composting. Then with the pulverized sheep manure or potato fertilizer you will get satisfactory results. In fact, if the manure is grain feed manure most largely, you will not need the potato fertilizer, and the pulverized sheep manure will be only valuable to stimulate early growth.

Well rotted manure can be applied to the ground any time and in any way convenient, but if manure only partly rotted is used it should be put on as early in the fall as possible after the crops are harvested. It is best to plow the ground first and apply the manure on top, but if it is desired to increase the humus contents of the soil as rapidly as possible, the manure may be applied before plowing and plowed deeply, say ten inches deep. Unless the ground freezes deeply this manure should be fairly well rotted by springtime and then harrowing with a disc harrow to a depth of six to eight inches will be all that is needed. If well rotted manure is also available it is best applied in the spring before harrowing.

Manure applied in the fall can be put on to a depth of one to two inches. It should be evenly spread to plow under. Well rotted manure put on to a depth of one inch would be sufficient for one application.

If using pulverized sheep manure best results may be had by scattering it by hand in the trenches before planting, but it may be scattered broadcast along the rows. If applied in the trenches it is well to mix it with the soil to the depth of about one inch. If applied on the surface it should be cultivated in as deeply as practicable with a horse cultivator or wheel hoe.

While pulverized sheep manure and commercial fertilizer may not damage bulbs if it comes in contact with them it is better to mix with the soil as above suggested.

No soil can be made to produce satisfactory crops unless pretty well built up in humus, even with the application of considerable commercial fertilizer, or pulverized sheep manure. The soil drys out so quickly that growth stops very soon after each rain. Hence it is necessary to increase the humus in the soil as quickly as possible.

Commercial fertilizer or pulverized sheep manure may be applied at the rate of about twenty pounds per hundred feet of row to good advantage. A less quantity of commercial fertilizer will answer. In applying concentrated fertilizers of any kind extreme care must be used not to apply it too heavily. It is much better to use small quantities each year.

You will find it extremely difficult and slow to build up your sandy soil so that it will produce good crops unless you put a considerable amount of time and expense into it. We speak from experience as our garden was originally a rather weak, lean sand, besides we made it very irregular in texture by scraping off top soil in places to grade around our house when building. After eight or nine years we still do not have the soil as uniformly built up as we could wish, but it could have been done in a shorter time, perhaps, by giving it more time and putting more expense on it than we wished to do.

Madison Cooper.

Planting and Storing Dahlias.

To the Editor:—

I have heard that when Dahlia roots are set out, only one should be planted and that one having an "eye." I cannot find an "eye" on any of my tubers. They all look alike to me, just a bunch of them hanging to the old flower stalk.

Can you explain so that I can get the idea? I have always set out the whole bunch because I could not feel sure which tuber had the "eye" on. Are the others no good and should they be thrown away? Do you think it best to plant tubers on their sides, and should they be stored for winter upside down?

MRS. M. A. W.

Answer:—It is probable that a Dahlia expert could tell about where the "eyes" were located and where a sprout could be expected, but the common way of locating the "eyes" is by the sprouts. A Dahlia clump is usually divided before setting, and, after the sprouts start, and in this way it is easy to cut the clump so as to have an "eye" on each tuber. We commonly use a pruning knife for the cutting purpose, as then if care is used in cutting, an "eye" can be left on a larger number of tubers than if the clump is divided rather roughly.

Some growers claim better results by systematically sprouting the tubers with long sprouts before planting and in every case it is assumed that the sprouts will start before the planting season. Tubers without an "eye" as we understand it are useless for ordinary planting purposes.

Tubers are best planted on their sides and fully five to six inches deep.

For storage purposes during the winter it is recommended that the clump should be placed upside down. Some store in sand, others only in boxes or barrels, without packing material but protected from the daylight.

CLASSIFIED ADVERTISING.

Five lines (about 40 words) $1.00 per insertion. Additional lines 15c. each.

DAHLIAS.

WESTERN BULBS to new customers: One each Dahlias, Souv. Douzon, giant red, dec.; Grand Duchess Marie, pink and white Cactus; Golden Gate Bronze Cactus; Golden West, very fine yellow, dec.; H. Budde, long stemmed red Peony; J. Charmett, large rose-pink, dec.; Rhiengau, fine red hyb-cactus, for $2; 300 others, domestic and imported. Catalogue. Trade List.
Carlson Dahlia Gardens, Boulder, Colo.

TO NEW CUSTOMERS—Six fine standard Dahlias, my selection, value $2.00, for $1.75. 6 novelties, value $5.25, for $4.75. Our Dahlias are grown under ideal conditions, without artificial stimulants, which force bulbs at the expense of strength. We grow over 300 varieties. The majority of which is listed in our catalogue—Free. Also wholesale list.
Carlson Dahlia Gardens, Boulder, Colo.

GLADIOLI

THE CHOICEST OF THE CHOICE standard varieties and novelties. American Indian, Orange Glory, $5 doz. Blue Jay, Rochester White, Queen of Whites, $2.50 doz. Best Violet, Mary Fennell, Youell's Favorite, $2 doz. Europa, Loveliness, Pink Perfection, Pride of Goshen, $1.50 doz. Large Buff, Miss Lucile, Pendleton, Niagara, White King, $1 doz. Peace, Panama, Baron Hulot, 75c. doz. America, Chicago White, Francis King, (Prim. Hybrids, Kunderdi), Prize Mixture, 50c. doz. postpaid. Three of a variety at dozen rate. Send for price list.
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BULBLETS—1000 lots, 50c, 3000 lots, $1, all postpaid *Independence*, a pink, that makes good wherever grown. Arthur C. Perrin, 1112-E-18th St., N.
Portland, Oregon.

ESTABLISHED Grower offers true to name Gladioli as follows:

	1st	2nd	3rd
America, F. King	$2.75	$2.25	$1.75
Panama, Princepine	3.90	2.90	2.40
Brenchleyensis	2.50	2.00	1.75
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Chi. White, Gl. of Hol	4.00	3.00	2.50
Europa, Liebesfeuer	7.00	5.50	4.25
Emp. India, Hulot	4.00	3.50	2.75
Ida Van, Kund. Glory	4.00	3.50	2.75
Lehmann, Pendleton	5.00	4.25	3.50
Niagara, R. Torch	5.00	4.00	3.25
Pacific, Baltimore	5.75	4.75	3.75
Sulphur Queen	3.00		
Mrs. Watt, Geo. Paul	4.00	3.50	3.00
Best sorts mixed	2.75	2.25	1.75
All mixed	2.00	1.75	
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FIRST SIZE Gladiolus Nigricans. Best very dark maroon, strong grower, large flower, at $1 per doz., $6 per hundred, $40 per thousand. Niagara, Panama, Crackerjack, at 85c. per doz., $5 per hundred. Many other sorts at low prices, also Dahlias at $1.50 per doz., varieties my selection. Hardy Phlox, Iris, and other hardy plants. E. R. Macomber, 44 Leonard Street, Woodfords, Me.

EAST HARTFORD GLADIOLUS CO.—Our 1920 catalogue of Dahlias and Gladioli for the asking. E. M. Smith, Pres. & Mgr., 65 Olmsted Street,
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SMALL SURPLUS LOTS in the following varieties, America, Pendleton, Wales, Herada, Peace, Fennell and Glory of Holland, send for list and extra prices to close out odds and ends. F. C. Hornberger,
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LIBERTY IRIS Best varieties for garden or cutting. Write for special trade prices for fall 1920.
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POPPY OF FLANDERS—The beautiful crimson Poppy that blooms on the graves of our men in France. Packet 15c, 2 for 25c, 10 for $1.00. Directions on packet. Imported seed. Whitney's 235 Main St., Lewiston, Maine.

THE colors and varieties of Asters I grow are second to none and better than most. To convince you will send 50 mixed, or all one color, or six each of eight best sorts, for $1.25, prepaid—big, strong transplanted stock. Delivery latter part of May, but order now. If you grow your own, send 25c. for a packet of new and rare Asters, mixed, strictly fresh seed. Everything prepaid. P. L. Ward, Plantsman, Hillsdale, Mich.

LANDSCAPE GARDENING—A practical course by mail. Colored illustrations. Beautify Home Grounds. Endorsed by leading Nurserymen and Florists. Write for Prospectus. American Landscape School, 2 N, Newark, N. Y.

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TIGRIDIAS—Fine, healthy home grown bulbs, 35c. per doz.; $2.50 per hundred. Also a limited number Ismene Calathina, White Peruvian Lily, extra large blooming bulbs 20c. each, 3 for 50c.
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Lancaster, Pa.

DON'T forget the vegetable garden! See here, 12 early tomato, 12 late tomato, 24 early cabbage, 12 sweet pepper plants, regular value, 95c., for only 75c., prepaid. All are the finest sorts I know of. P. L. Ward, Plantsman, Hillsdale, Mich.

THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

Vol. VII
Number 6

June
1920

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
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June Dahlia Notes.

[*Written expressly for The Flower Grower.*]

BY J. K. ALEXANDER.

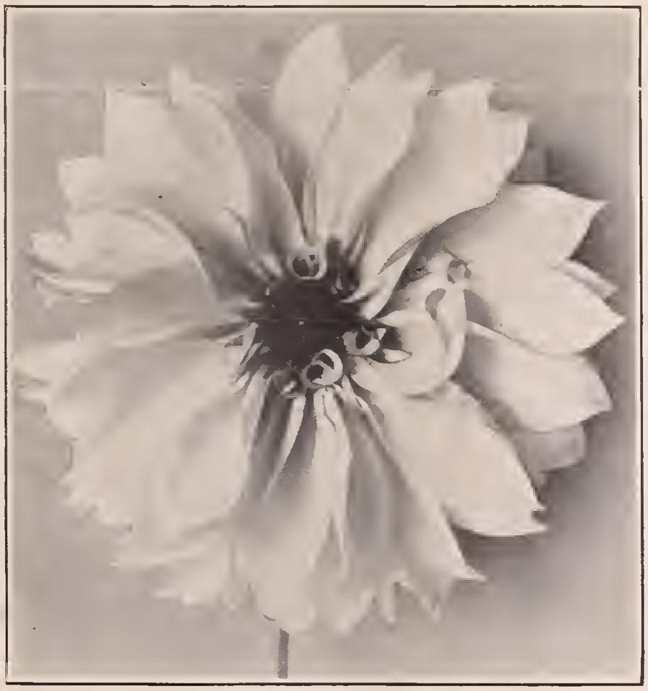
TO HAVE a successful Dahlia garden it is just as necessary to care for the plants properly, as to plant the tubers correctly. Cultivation should be commenced as soon as the plant comes through the ground, so that the growth of the plant will not be checked by the formation of a crust. Hoe around the plants once each week until they commence to blossom. Give thorough cultivation, deep at first, gradually decreasing, until flowering time. After they commence to blossom, do not cultivate, as then is the time the new roots are forming and you are apt to cut off the new tubers, weakening the growth of the plant.

Do not fail to stir the soil after each rain, keeping the soil from forming a crust on the surface or baking, and conserving the moisture in the soil, thus avoiding the necessity of watering.

As the shoot or plant commences to show itself above ground, care should be taken at this time for the prevention of cut worms and other pests that destroy the young shoots. I recommend any of the following as the best preventives: Vermine, Aphol, Cut-worm food or Tobacco Dust. Tobacco Dust does not destroy these pests, but seems to keep them away.

As soon as the plant attains a height of eight or ten inches, it is the time to commence to "train" your plants. There are three distinct systems from which you must choose: The staking system, the branching method or the massing system.

The *staking system* is probably the most popular, many amateurs finding it the most successful. Dahlias under this system should be planted between two and four feet apart, according to the amount of space you have to devote to them; the further apart, the more robust the plants grow. As soon as the plants attain a height of from eighteen inches to two feet, they should be secured to the stakes, thus protecting them, and preventing the brittle stalks from being blown over or getting broken off. Any soft twine or raffia is good to use in tying the plants to the stakes.



DAHLIA—*ROSE GEM.*

Originated in Holland, and received the Award of Merit at the Dahlia Trials in 1916, was introduced in 1917 by Warnaar & Company, of Sassenheim, Holland. In 1918, J. K. Alexander, of East Bridgewater, Mass., imported it, and exhibited it in 1919 at both the exhibition of the Massachusetts Horticultural Society in Horticultural Hall, Boston, Mass., and at exhibition of Connecticut Fair, Hartford, Conn., in collection of twelve best Peony-flowered Dahlias, the collection winning first premium in both instances.

Rose Gem is a Dahlia of good habit, long stiff stems, produces its flowers in abundance, and is the finest delicate pink Peony-flowered Dahlia yet introduced. Early in the season it resembles *Bertha Von Suttner* in shape. The above photograph was taken just before frost this past Fall.

The *branching method* is a system advocated by many professional growers, and does away with staking. Plant tubers in hills or drills from eighteen to thirty inches apart. As soon as the plant has two sets of leaves, pinch out or cut off the whole top of the plant. At each leaf a branch will start thus making four branches, one at each leaf. Do not pinch out the top but once, as by pinching out makes your plants two weeks later in flowering. The advantage of this method is that your plant has four flower stalks, instead of one by ordinary ways, each of which blossom equal to the one. When the plant is grown it will have a short, strong, single stalk, which comes an inch or two above ground, with four branches of flowering stalks. The plants are more dwarf, having a neat branching appearance, the branches being self-supporting, not easily blown over by the winds.

The *massing system* I use for field culture, avoiding the extra labor and expense of staking, and the woodeny effect of the stakes. Tubers are planted in rows, from ten inches to two feet apart, and when grown make solid rows, each plant being so near they support and protect the other. Solid rows of one color make a very good showing under this method.

In many localities Dahlias are infested with small green flies and bugs, so at the height of eighteen inches it is well to prepare to keep these pests away. An occasional spraying of any of the well known insecticides will destroy and keep these pests away. Most any of the following are obtainable locally, and are the most effective preventives: Arsenate of Lead, nicofume liquid, nicotine, tobakine, whale oil soap solution, or any of the other well known sprays.

Both wood ashes and lime are good at all times, and in addition to being good fertilizers, are effective against insect pests.

THE DAHLIA

Value of Dahlia Trial Gardens.

By Geo. W. Fraser.

[*Written expressly for The Flower Grower.*]

The value of trial gardens to the amateur and professional grower cannot be overestimated for both derive many benefits from them. By visiting the gardens they see the varieties growing in competition with others and are better able to discriminate between them. They see the habits of growth, color, size and type of bloom and any other advantages or disadvantages that the varieties may possess and can judge better whether the varieties will suit their purposes than by a catalogue description or by viewing the blooms at the shows.

Every year thousands of people visit the Rose Society's Trial Gardens at Elizabeth Park, Hartford, Conn., and I am sure that all feel well repaid for their visit. The nurserymen benefit by the orders received from visitors to the garden.

Last year hundreds of visitors from all over New England and other states, some from as far as Colorado and Nebraska, visited the American Dahlia Society's Trial Gardens at the Connecticut Agricultural College, Storrs, Conn., and were very much impressed with the beautiful display of Dahlias. Many who were never Dahlia lovers before got converted to them and are going to try their hand at growing some this year as they now appreciate how useful the Dahlia is for garden and house decoration.

From the correspondence I have had from Dahlia lovers all over the country I am sure that a great stimulus to the trade can be obtained in this way and this is where the professional grower benefits. In addition to having their own creations tested, it is a splendid opportunity for bringing before the public the best they have in novelties.

The name of the grower as well as of the variety is posted conspicuously on the stake and in this way the public can see for themselves what the variety looks like and if it suits their tastes they can get in communication with the growers.

The varieties described in the following notes are those that showed promise in the Trial Gardens of the American Dahlia Society, conducted last year at the Connecticut Agricultural College at Storrs. In this list I have mentioned only those that are on the market; or are likely to be soon. There were several other splendid varieties that received the certificate of merit that were entered by amateurs and private growers, some under number, so I doubt if they will be on the market this season. All the varieties are free flowering, and were grown without disbudding so should make large flowers, if disbudded, for exhibition purposes. Those marked with a * received the Society's Certificate of Merit:

* *Geo. L. Mastick*—(M. G. Tyler, Portland, Oregon.) A large crimson-purple duplex, that is very attractive and shows up well in the garden—5 ft.

* *Amy Robsart*—(Tyler.) Peony, Immense flower of orange-scarlet color suffused with red, on good stems; worthy of a place in any garden, or for exhibition.

Fantastique—(Tyler.) A very odd and attractive variety; the color is a deep maroon, with white edges and tips; the petals twist in a tortuous fashion. A very remarkable variety—6 ft.

**Quentin Durward*—(Tyler.) Peony, bicolor crimson-yellow, another large flower suitable for garden or exhibition purposes.

Frans Ludwig—(K. Van Bourgondien, Babylon, L. I., N. Y.) Decorative—a fine medium sized flower of lavender pink color, that will make a fine addition to the garden for bedding, or cut flower. It is dwarf and a continuous bloomer—2½ ft.

**Esther Lynn*—(C. C. Morse Co., San Francisco, California.) Decorative. A fine variety of a very pleasing burnt orange color, on long stems good for cutting, garden or exhibition—5 ft.

* *Splendid*—(Nathan Miller, Branford, Ct.) Cactus Hybrid, a pure white variety that everybody admires. Fine for garden and exhibition—4 feet. This variety obtained creditable mention by the California Dahlia Society.

* *Lavender Pink*, now named *Mrs. Carl Salback*—(Carl Salback, Oakland, Cal.) Decorative. A large flower on long stiff stems of a pleasing shade of lavender pink; this variety will make a name for itself wherever shown—4–5 feet. This variety obtained highest honors at the California Society's Trial Gardens, 1919.

* *Lady Helen*—(G. L. Stillman, Westerly, R. I.) Cactus Hybrid. This is another large flower the color of which is a deep pink with cream tips, on long stems, should make a good garden or exhibition variety—5–6 feet.

* *King of Shows*—(Stillman.) A very free flowering show variety of a deep butter yellow. Its long stems make it fine for cut flowers as well as for exhibition purposes—5–6 ft.

* *Perfect Beauty*—(Stillman.) Decorative. Here is a variety that will please those that like to have something odd and novel in their gardens. The red petals tipped with white make a very striking plant—4 feet.

* *Aquitania*—(Stillman.) This Cactus Hybrid will make a fine addition to the collection. It has immense flowers of a deep salmon pink, on long stems—5–6 feet.

* *Catherine Wilcox*—(Stillman.) This is a dwarf decorative variety that ought to make good for cut flower as well as for the garden and exhibition. Color white with lavender shading—2-3 ft.

* *George E. Alling*—(C. Louis Alling, West Haven, Ct.) If you want a good clear, lemon yellow Peony, for cutting, this variety will please you. The color is all that could be desired, and it flowers freely—4–5 ft.

* *Margaret Douglas*—(A. W. Davison, Ansonia, Ct.) Decorative. This variety resembles *Esther Lynn* but the color is a deeper shade of burnt orange. Very free flowering, and good stem—4–5 ft.

Dahlia Hints.

The Dahlia is a gross feeder and to get best results the soil should be plowed or spaded 8 to 10 in. deep and a good stable dressing or commercial fertilizer thoroughly worked into the soil, plant the bulbs in hills or furrows about 6 inches deep, but when first planted cover with about 2 inches of soil and hoe the rest in around the plant as it grows.

Don't let more than one or two stalks grow and cut off the lower branches till the plant is about two feet high. You get flowers earlier than you would if you pinch out the top, as some recommend, and by cutting the flowers constantly, with long stems, they keep blooming very profusely all through the fall.

The Dahlia is very popular as a cut flower. If cut either in the morning or evening, put in cold water, the full length of the stems and left in a cool place for a few hours, they will keep finely. I have used them for floral and decorative work and they are always much admired.

Mrs. H. M. Walker.

Will Dahlia Bulb Growing for Chemical Purposes be Detrimental to Commercial Dahlia Culture?

At last the Chemist has found the Dahlia tuber to be of worth as a food product. Some of our Dahlia growers welcomed the discovery as a general benefit to the trade, but will it have a good bearing on the flower? Bids have traveled around to grow tubers in large quantities for this purpose. Queries as to what varieties will produce the largest bulbs have been discussed.

Now let us consider the matter in another light. Most of us are flower lovers. The Dahlia has become our hobby. To a real lover of flowers the smallest little flower has its significant beauty, the larger and georgeous creates amazement. Many of the general growers are in the business just for the profit it gives them. I know at least a dozen. They have no love for flowers whatsoever. Dollar with them stands before flower! Now comes the question, will the Dahlia become a common factor by this predicted over-production of tubers? The plant will flower. Attempts to ship the blooms to the market will be made and it may result in an oversupply of common blooms, for the common stock will always interfere with the good quality. There will also be attempts to dispose of the tubers under name. In other words will the Dahlia "wear its welcome out" by this over production?

Hugo Kind.

Growing Dahlias Commercially.

As my methods of growing Dahlias commercially on a large scale are generally considered to be somewhat different from those followed by most Dahlia growers, I have been asked to describe them. This year I shall plant about forty acres and shall follow my usual custom of starting the work the first Monday in May. I shall be through by the middle of July and perhaps earlier, depending on the weather.

I have been told that my farm is exceptionally free from weeds and I make it a hard and fast rule to prevent all weed growth. This is easier than it was when I first started, but it requires regular cultivation and careful preparation of the soil. I use a two horse plow, and put it into the ground from 12 to 14 inches deep. Then I go over the ground with a fine tooth harrow or a cutaway harrow. I harrow the fields twice in both directions, and arrange to have the harrow lap each time.

Each field is manured lightly every other year, the manure being plowed in and about two cords to the acre. Every third year Connecticut limestone is applied and harrowed in, about 800 pounds being used to the acre. My plantation is divided in such a way that one-third is limed each year. I am strong for lime when growing Dahlias. It keeps the ground sweet and improves the flowers. While I do not use a great quantity of manure, I also plow in all of the stalks left when the Dahlias are dug in the fall. Nothing is burned, and the Dahlia tops help to keep the soil filled with humus. Constant use is also made of commercial fertilizer, either bone meal or a regulation potato fertilizer, about 1,200 pounds being put on to the acre. It is used in the furrows and is mixed with the soil by pieces of brush to which a couple of horse shoes are tied. Boys pull this brush up and down the furrows.

Furrows where the Pompom Dahlias are to go are three and one-half feet apart. For the other Dahlias, from four to four and one-half feet is left between the rows. When striking out the furrows no line is used, but my plowman, who is an expert, can get them remarkably straight by his eye. The plow goes twice in each furrow. The tubers are dropped by hand, and my instructions are to have from three to eight inches between the crowns. The tubers themselves often lap if they are long, so that it looks as though the planting was very close. It is always the eye, though, that we are paying attention to. The tubers are covered by cultivators and by the time the planting is finished the first fields put in are ready for cultivation. Besides being cultivated with the horse, all the Dahlias are hoed by hand twice.

In planting my fields I use many tubers which other growers would throw away. The cutting up of the clumps is begun in the fall and continued all winter, from ten to fourteen men being employed. All of the poorest tubers, those with broken necks, etc., which could not be sold are carefully saved and planted. I have found that oftentimes the broken necks will knit in the course of the winter and make good tubers to plant in the spring.

The tubers are carefully stored in a cellar which is just damp enough to prevent shriveling, and where the temperature does not go below 38 or above 44. One piece of ground on my farm has been used for Dahlias eleven years, and last year the flowers on this piece were better than ever.—J. K. Alexander in *Horticulture.*

The American Dahlia Society.

A meeting of the Executive Committee of the American Dahlia Society was held at the Grand Hotel, New York, on Monday afternoon, May 10, 1920.

A prize schedule for the fall Flower Show was partially prepared to be completed by the committee and presented at the next meeting, June 14th.

More than half of the trade space has already been taken for the Dahlia Show to be held at the Hotel Pennsylvania, New York, September 27, 28 and 29th, and many prizes have been contributed. The indications are that the total number and value of the prizes will be more than offered at any previous show.

Quite a number of orders have also been received for trade tickets which are offered at $25 a hundred, the regular admission being 50c.

It was finally decided that only exhibitors occupying trade space will be allowed to do business in the hall during the show and that all competitive exhibits would be together, separate from trade exhibits and not combined as was originally intended.

The many obstacles appearing have been overcome and everything now points to this as being the largest and most successful show of any single flower ever held.

Edward C. Vick, Sec'y.

A Walk in the Garden of "Josiah Allen's Wife."

By Miss Marietta Holley.

Note by the Editor—

The writings of Miss Holley under the *nom de plume* of "Josiah Allen's Wife" are known to an extensive circle of readers and we are pleased to present here an article from her pen which appeared in the "Christian Herald" to which Miss Holley has contributed many articles. The article which follows speaks of Miss Holley's own garden at Bonny View which is near Pierrepont Manor, which village is within easy motoring distance of the publication office of The Flower Grower. Miss Holley has for many years taken much interest in the attractive features of her own grounds and her delightful description of a morning walk in her garden will be welcome to many of her old friends and readers.

What is more wholesome and delightful than an early morning walk among your flowers? The sun is still low in the eastern skies its bright rays softened by the overhanging foliage of the trees. You walk down the gravel path blithely. Maybe in the house the years pressed down upon you, but here in the sweet morning air you are young again. Yes, under that Tea-rose is a coy new bud, holding in its tiny breast the secret of rosy life and sweetest perfume. Now, every morning that baby-life will appeal to you till its full glory of bloom is reached.

The Wistaria and Roses over the latticed arch vie with each other in making the arch triumphal. The long Lily-bordered path, which later will be full of beauty, has still some humble tenants smiling on you, rising early, as it were, while their stately neighbors are still asleep. Modest English Violets lift their blue eyes and greet you. In a corner the Snowball Tree is full of spheres of whiteness. The Syringas bend with their weight of perfumed whiteness.

A walk on one side of the garden is bordered with Morning Glories and Nasturtiums. The Honeysuckle vine over the summer-house at the end of the walk is a mass of blossoms, and as you approach, two gay little humming-birds swing in the air and dart away. Too many flowers here to note the birth of a new bud; as well count the dizzy movements of the humming-bird's wings.

What a freedom from cares and perplexities one finds among the flowers! They are never unkind; you may be with them from morning till night and not have one bitter memory or disagreeable thought to take with you to your pillow. A Tiger Lily won't dig its claws into your breast, the Calla Lily will not prolong her call indefinitely. The Sweet William's honeyed personality is honest and sincere; sweetness that will not under fancied provocation turn into vinegar revenge.

The Snowdrops will not chill you with cold words and looks. The dogwood will not bark at you, or dog your footsteps. There is a clump of the beautiful variegated variety bending over a quiet corner of the fish pond, its pretty leaves reflected in the water. It has no canine faults, but all the canine virtues; fidelity—no running away from its mistress to follow strange masters.

Jack-in-the-pulpit does not preach too loudly, or make awkward gestures, taking your mind insensibly from the heavenly message he is striving to deliver, and which your soul earnestly desires to grasp, the mind being willing but the body weak. How sweet is that little bed of wild Blue Violets that covers the sunny corner between the Cedar tree and the Willow! There is a ground-bird's nest just beyond it. The bird felt safe in building its nest in that sheltered spot—step lightly. Just a few steps farther, so near the path you can reach it with your hand, hidden away in the thick shade of an Evergreen, is a robin's nest. The robin too felt it was with friends when it laid the slender foundation of its home. We feel flattered at the compliment.

A little farther on we come to a rustic bridge arching over the water; an Ivy vine climbs along one of its latticed sides with its sprays almost touching the water. Beyond the bridge is a wilderness of green, beneath the shade of which tall ferns grow proudly. But you do not cross the bridge, but turn and follow another winding path through the overhanging trees, and come out into an open space where, between two grand old trees, hangs a hammock, hemmed in from intruding eyes by flowering shrubs.

Just the thing! You sit down into its comfortable embrace. You have had a long walk, but not too long, and as you rest in dreamy content you instinctively wonder what new phase of beauty your flowers will present when you take your evening walk, and what new message they will speak.

The Concrete Manure Pit.

Concrete is one of the things which has not advanced in cost in proportion to food products, and it is a big economy to care for all kinds of stable manures and composts by storing them in a liquid tight pit of concrete.

Perhaps pit is a wrong name as it does not necessarily follow that the concrete floor should be much if any below the ground. It would, in fact, be advantageous to locate it on a side hill so that materials going into it could be easily unloaded and the rotted compost be easily removed from the lower level.

Where manure is stored in loose piles, especially if they are not maintained with a flat top, or depressed in the center, the loss of fertility from leaching and burning is very great. It may amount to as much as 50%.

While the water-tight floor is important, it is also important that the solid material under storage should be kept pretty well saturated to prevent heating. A roof is not necessary, except where there is no water tight pit to hold the leachings. The ordinary rainfall will usually be sufficient to offset natural evaporation.

It is estimated that cows and horses produce about a ton of manure a month per 1000 pounds of live weight; the manure weighing from 40 to 60 pounds per cubic foot, depending on how solidly packed and how well saturated with liquid. Thus a ton will require about 50 cubic feet of space for storage.

In constructing a manure pit a 3 or 4 in. bottom, if laid on firm soil, and 6 or 8 in. side walls should be sufficient. Reinforcement should be used both in the bottom and walls and it is estimated that the cost of a manure pit would be from $3.00 to $5.00 per ton of storage capacity, depending on site where built, and the cost of labor and materials. If good sharp sand or pit gravel is to be had nearby the cost need not exceed the lower figure, providing no skilled labor is employed. The value of manure has increased much more in proportion than the cost of concrete construction.

Madison Cooper.

The Flower Grower
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FOR BOTH AMATEUR AND PROFESSIONAL FLOWER GROWERS

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OUR MOTTO: *Special favors to none, and a square deal to all.*
Canadian and Foreign Subscription Price $1.25 per year.

Growers are invited to contribute articles or notes over their own signatures, but the Editor reserves the right to reject anything which in his judgment is not conducive to the general welfare of the business.

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Vol. VII June, 1920 No. 6

"*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

Reforestation.

While reforestation is not strictly a flower growing subject, yet all readers of THE FLOWER GROWER are directly or indirectly interested in the conservation of and the increased production of forest products.

All sorts of timber and wood products are advancing in price out of all proportion to the advance in price of other things. The shortage is especially apparent in print paper raw material for which comes largely from the forests. The demand for paper has been so tremendous during the past few years, and the demand is increasing so rapidly, that it is only a question of a short time when woods suitable for paper making will be reduced to such an extent that it will mean a paper famine. Consumption of timber for other purposes although somewhat reduced by inactive building conditions, has in some lines largely increased.

The only remedy which will relieve the situation and prevent a shortage of famine proportions in the comparatively near future is conservation and reforestation. The present generation is so greedy for making money that they take no heed for the best interests of the future, and it is important that all should know the present situation and where present tendency of the times leads.

It is not for us to point out ways of conservation and reforestation. This must be suggested by those who have made a special study of the subject. It is our purpose only to call attention to the absolute need of planning for the future.

MADISON COOPER.

Gladiolus Reminiscences.

Years ago I used to be a Gladiolus grower and planted a considerable number for those times, both for the bulbs and for cut flower purposes. But from some unexplained cause they began to do badly for me, I purchased new stock from different sections, also planted them in different sections on my Flower Farm, the result nearly always being the same. I finally quit growing them, using the land for crops that I could grow and bring me a profit. I have all my life been interested in Gladiolus culture, (not Gladolia as some call it.)

My boss, whom I worked for when a very small lad, was practically the importer of all the new types that the great genius Mons. Lemoine produced. As far as I can learn he was at that time the sole improver of the Gandavensis tribe and my first recollection was of unpacking and labeling a number of the newer varieties received from Lemoine. That was in the fifties and since that time there have been a number of growers and specialists who have taken over other classes, hybridizing same; till today we have some of the most beautiful colors and shapes imaginable and the end is not yet.

May success still continue to bless the skill of the hybridizers of this wonderful flower, and that the writer may live to see the success that he knows can be obtained, as past results have shown.

RICHARD VINCENT, Jr.

No More Free Sample Copies.

As our readers well know, we have been striving mightily to keep the subscription price of THE FLOWER GROWER at $1.00 per year. It is a mighty task in these days of high publishing costs. As a help in this direction we find it necessary to in future require that sample copies of THE FLOWER GROWER be paid for. No more free samples will be sent. We give this notice for the benefit of our subscribers who have been kind enough to send us lists of names of flower lovers to receive sample copies of THE FLOWER GROWER. We can still use lists of flower lovers to advantage however, but instead of sending sample copies, we will in future write them calling attention to THE FLOWER GROWER and offering to send current issue for 10c.

The special rate which we have been offering to subscribers sending in clubs of three or more new subscribers is still in effect, and will not be withdrawn until July 1st.

Reading and Education.

Two young men with equal educational advantages and who have pursued the same course of study and graduated with equal honors do not necessarily do equally well in any walk of life which they may undertake. In nine cases out of ten the young man who has early acquired the reading habit will outstrip his companion with equal early advantages. Reading not only results in acquiring a vast fund of useful information, but it gives the persistent reader a much broader outlook on life and gives ideals and aspirations which never come to the non-reader.

We often wonder why it is that so few people are real readers and who really know how to read. The limit of the reading matter of the average individual is the daily paper, and some even do not subscribe for nor read the daily news. While we are not a strong advocate of the daily press as a source of education or information, the daily press is an absolute necessity for the person who would keep himself abreast of the times. This should be supplemented by a well balanced selection of books and publications devoted to specialties in which the individual may be interested.

MADISON COOPER.

Judging from the comments of some of our town-dwelling subscribers we are on the unpopular side of the argument in defending the cat against her enemies, but it is noticeable that the enemies of the cat are invariably located in city or urban homes. Cat haters are found in the country only as exceptions to prove the rule. Dogs and cats have no possible excuse for an existence in the cities anyway, and we guess, therefore, that we are not so far at variance with our city friends on the main point.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

Floral Wonders in Ventura-by-the-Sea.

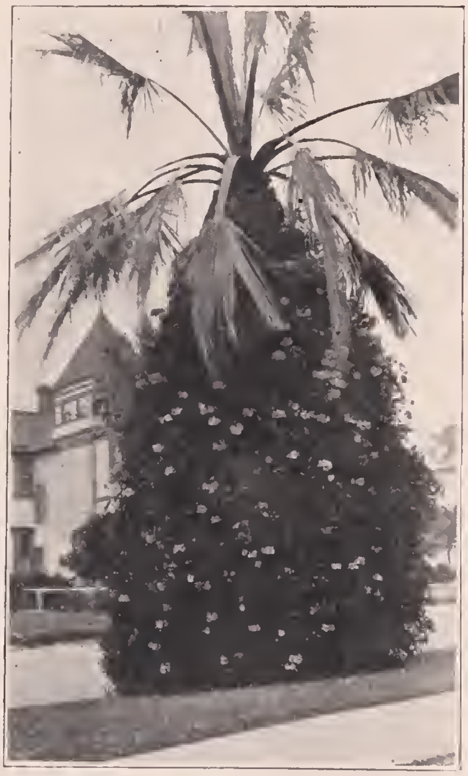
SO THIS IS VENTURA-by-the-Sea, and well named, for the wash of the waves of the shining bay could be heard to the long main street running through the center of the town. We enjoyed the walk in from the little station, with broad expanse of ocean at our left and high bluffs on our right, seemingly so close that I wondered there could be room for a town, but there it was snuggled in between bluff and sea surely not more than a mile between. We stepped into a pretty tea room for refreshment and the first thing my eyes rested on was a Rose. A most wonderful Rose, the largest I had ever seen, beautiful in color and delicate of texture. Our table was not far from it and as I ate I looked and thought about the Rose. Ah! I had been tricked, there were no real Roses of such size, and I scorned it, but curiosity led me to it, and as I touched its petals, the girl smilingly answered the question of my eyes. "O, yes, it's real, we have many of them." Such are the Roses of Ventura.

As we walked about the town that afternoon I had occasion to doubt the evidence of my senses many times. The Fuchsias were especially remarkable, growing in form and to the size of large bush-like shrubs. I noticed the size of one in particular, the main stalk of which measured just above the ground—thirty-six inches in circumference. Almost all Fuchsias were loaded with bloom although the season was mid-February.

A pretty as well as quite common sight was the Palms with Ivy Geranium climbing over their trunks. While I was admiring one and getting a snapshot of it, I visited with a woman and boy who were busily trimming a hedge of blooming Geraniums, and working among Calla Lilies—a large bed of them in full flower—getting ready for spring. I thought of Ohio under a blanket of snow, and sighing, wandered on.

There were many tropical looking plants mostly unknown to me, but I recognized the "Bird of Paradise" and found it in bloom in three different yards. I had seen these quite unusual plants in hot house displays, but the ease with which they could be grown and brought into perfection of bloom in the open was only another evidence of this climate being the ideal home of flowers, and two women have made it the home of many *new creations* in flowers.

Mrs. Theodosia B. Shepherd, who devoted thirty years to the cultivation of flowers, produced many new and valuable creations which became well known to flower lovers. Departing this life, her mantle of flower love and creative insight, fell upon her daughter, Mrs. Myrtle Shepherd Francis, who having become interested in Petunias of her mother's originations, Fringed Hybrids and California Giants, began devoting special attention to this flower. She explained that the way ordinary Petunias are produced that the anthers of a *single* flower are removed before the pollen sack has burst; the flower is then covered with a paper bag or other cover to prevent insects from fertilizing it and when the stigma is ready the pollen of a double flower is dusted on the stigma by means of a camel's hair brush. Double Petunias having no ovary could not produce seed. As she worked among them day after day an unconscious ideal of a *seed producing double* formed in her mind. She had learned that a rudimentary pistil was not uncommon and eagerly watched all doubles with greatest care and one day her patience was rewarded by the sight of a tiny bit of green amidst the anthers. The long-looked-for stigma had appeared. Carefully stripping off the petals she cut the tube which bound the filaments together and there in the heart of the flower was a perfect ovary. Fertilizing it she fairly hung over it watching with bated breath to see if it really would develop, which it did, as well as another imperfectly formed ovary found later. Then she knew that the double Petunia would reproduce itself if assisted. Those were what would now be considered as very inferior varieties but from them, by hand nursing and careful selection, have come the beautiful Peony flowered and others equally wonderful, their form, coloring and delicious perfume making it seem almost unbelievable that they could have originated from the little old-fashioned sticky, smelly, magenta Petunia.



Palm Tree in California with Ivy Geranium covering the trunk.

Mrs. Francis is a very pleasing woman to meet, gracious, enthusiastic and altogether delightful as she stood in the midst of a great bed of fragrant blooms, gathering and pulling the petals apart in explanation of her story of the double seeder Petunia.

MRS. A. H. AUSTIN.

The St. Thomas Horticultural Society.

St. Thomas' fire rate is the lowest in the Province of Ontario. The Provincial fire inspector on his regular tour of inspection during the first week in May stated that the greatest contributing factor to this excellent record was the work of the St. Thomas Horticultural Society. He found an entire absence of shacks, the gradual elimination of back yard board fences, and instead of piles of debris usually noticed in spring time, beds of flowers and well kept lawns had displaced them.

"Mothers' Day" was fittingly observed by the St. Thomas Horticultural Society. Besides furnishing twenty baskets of beautiful spring flowers to several churches, each Mother in the local hospital and in the Home for the Aged was presented with a bouquet, the majority of the bloom coming from the municipal greenhouse.

On account of the continued cold weather Tulip Sunday which is usually celebrated on Mothers' Day had to be postponed for two weeks. The bloom will be very inferior due to unseasonable conditions.

June 12 is to be a "Red Letter Day" in St. Thomas. It is proposed to hold a Loyalty Day, a "Boost St. Thomas" Day. Thousands of pictorial envelopes on which are printed in colors views of "The Flower City" will be offered for sale at each corner of the business streets by young ladies. Each buyer will be tagged with a neat card reading "I bought a bunch." Merchants will decorate their windows for the occasion. The city will be in holiday attire, the stores will hold open house, the parks with their magnificent collections of Peonies, Irises and Lilacs will be at their best. Addresses on civic patriotism will be given at the several schools on the preceding day. Invitations are being extended to all Horticultural Societies within motoring distance to attend.

F. E. BENNETT, *President.*

WAYSIDE RAMBLINGS

[*Written expressly for The Flower Grower.*]

NAMING NEW VARIETIES OF GLADIOLI.

Another matter worth thinking about was brought to my attention a short time ago in correspondence with a commercial hybridizer and grower. This gentleman had just mentioned his reluctance to name a new Glad. unless it was superior to anything in commerce in some one particular at least, and that he had discarded thousands of seedlings because they did not measure up to that standard, although many of them were actually superior to many subsequent introductions. His words and ideas are so good that they are worth quoting at length.

> "There is a great temptation on the part of growers of seedlings, to which I fear even some of our leading growers have given away, to preserve and dignify with a name many fairly good seedlings, no better than many sorts already listed in catalogues cluttering up the lists with sorts that properly ought to be either discarded utterly or thrown into a mixed collection. I am sure that I have thrown away many thousands of very good seedlings, quite as good as many of the named sorts already in commerce, because they did not come up to my ideal of what a new sort should be."

Compare these views with the well known methods in use. Surely the Gladiolus Society needs a popular vote on the varieties in commerce, as to whether their existence shall be sanctioned by the Society, with perhaps 20 affirmative votes necessary to qualify, and if less are cast, provisional standing to be granted, and to be designated by a different title. If this were done, one can see at a glance how difficult it would be for a dealer to sell inferior named sorts. For myself, I feel that I am about to the point of refusing to put money into sorts that have not proved themselves at the Society's shows. Such things as Joe Coleman's set of seedlings which swept off the prize for "One dozen varieties, one spike of each" needed no advertising. All he had to do was to announce that they were for sale at a fair price, and he was at once deluged with orders, and many have since regretted that they were not in time. But when one sees in the journals the names of unknown new sorts, at very high prices, he can well afford to await the issue at the next show. Two, three and more dollars per corm are prices which are fair only in the most extreme of excellence. A spike must be of supreme quality to be worthy of such a price.

W. E. Saunders.

THE TESTING AND TREATMENT OF VARIETIES OF GLADIOLI.

It isn't wise to decide that a given Gladiolus lacks merit if you have grown it but once. Three seasons ago I failed to grow *Myrtle* successfully. The following season the same stock produced flower spikes beautiful beyond all praise. Of course this outcome didn't merely happen. It was the result of studied attention to its probable cultural requirements.

A Pansy specialist said he had foreordained the Pansies in his Pansy bed to measure at least two and a quarter inches. By which he meant to say that he had conformed to all the conditions essential to the production of such big Pansies. Nearly all Gladioli, like Pansies, can be made to do well by proper culture. *Europa*, for example, though much defamed, can be grown satisfactorily by any one who will give it the attention its splendor merits. It undertakes to produce a flower spike out of all proportion to its foliage. It must, therefore, receive cultural care to promote vigor of stem and leaf early in the season, and later, generous stimulation while the flower spikes are forming. The best ground bone-meal dug into the subsoil, a generous layer of wellrotted fine manure as a mulch, as soon as the plants are well up, and the generous use of weak liquid manures as stimulants, are all very useful.

While in *Europa* we have a Gladiolus requiring special culture and stimulation, in *Schwaben* we have a variety which needs repression. This can perhaps be done best by growing the smaller sized corms. Plants grown from ¾ inch and medium sized stock produce more attractive flower spikes than those from the largest corms. The latter usually produce several plants from a single corm and these, unless thinned out, bear short spikes with few flowers. *Schwaben*, above most other varieties, is well adapted to the experiment of cutting corms into segments for increase in both corms and flower spikes.

Henry Madtes.

MY FIRST EXPERIENCE WITH BULBLETS.

On April 23rd of last year in the early garden plot, I planted some Gladiolus bulblets of good varieties. The cold, rainy weather hardened the soil, but the weeds grew. I waited several weeks for the little blades of green. Since it was my first experience planting bulblets, I was interested. It was late in May before I could weed or cultivate the five short rows, and not much to be seen then, but I gave them some extra fertilizer, and in June when the weather was fine and the ground was warm they grew rapidly and furnished my first bloom of the season, July 17th a *Primulinus Hybrid* from Kundred's "Grand Mixture." Others soon bloomed and altogether there were over one hundred. When I dug the bulbs the second week in October, I was pleased to see such good sized bulbs from such small bulblets.

Stella M. Antisdale.

CATERPILLARS EAT GLADIOLI.

Under the above caption, "W. G. N." asks in March Flower Grower, what insect nibbled the tip of the Gladiolus spike, and the answer is caterpillars. I have had much more trouble from grasshoppers than caterpillars; some years they have been very destructive. The soft black beetle commonly known in this section as the Aster beetle, will eat whole spikes of flowers sometimes, when deprived of its favorite food. They appear suddenly in considerable numbers and will destroy many spikes between morning and night. They seem to work during the daytime and the best method I have discovered for getting rid of them is to knock them off the blossoms into a can containing a little kerosene. They are quick to take the alarm and many of them will drop to the ground or catch on the stalks lower down, in which case they should be carefully sought out and crushed. Their appetites are something to wonder at and their destructive powers very great.

Harmon W. Marsh. (Indiana)

AGE AND GLADIOLUS CORMS.

Although but an amateur, being a farmer's wife, yet forty-five years steadily growing Gladioli should give me some experience. I grew and loved this wonderful flower long before it was either popular or well known. Small insignificant scarlet and yellow were the first ones and I well remember my first pink ones and how wonderful we thought them. Some years ago every Gladiolus bulb I had, several hundred, were frozen solid in the ground so I was obliged to buy an entire new lot and these I am sure I have yet. I never save the tiny bulblets as I fear they would not grow unless peeled. A new bulb, sometimes one, sometimes up as high as five or six, form on top of the old one, and mine are just as fine, just as thrifty and vigorous today as twenty-seven years ago. It is *cultivation* that counts rather than the age of the bulbs. I only wish I could meet with some one who threw theirs away every year. A thorough careful ripening of the bulb is also a very necessary item. Gladioli do not want fussing over, but they do need intelligent care. A good, dry, frost-proof place to store them is another essential to their success.

Mrs. E. B. Murray.

A PLEA FOR MORE FLOWERS.

Dahlias fill a gap in the garden when other blooming plants are scarce. Hardy Chrysanthemums follow the Dahlia and lengthen out the season's bloom. My advice is to plant both and plenty of them, not only making your own home beautiful, but it gives you a God given pleasure to have a bunch to give, and to help possibly a poor unfortunate who is sick and weary of life, never possibly having had the pleasure of growing and cutting flowers.

There is nothing on God's earth so beautiful as flowers and nothing that makes home more attractive. Let us each and every one continue this godly work by growing them, reading the periodicals published on same, also talking about them whenever possible, so that every garden and every home, will be the home beautiful.

Richard Vincent, Jr.

MORE BIRD ARTICLES DESIRED—BROWN THRUSH.

I am glad that you are to include for your readers an occasional item regarding birds, for I am sure that flower lovers in general are interested in everything that adds interest and beauty to nature. Probably Mr. Saunders (Canada) could tell us many things about birds that would be of great interest.

At my country home (Rochester, Mich.) we have had a Brown Thrush that has been with us for three seasons. At least I assume it to be the same one, for he sings with unusual fervor and very late in the season, and during his renditions he never fails to include the song of the Whippoorwill and occasionally that of the Bob White and Meadow Lark. He seems to have been a close observer of the songs of other birds for we note an occasional familiar passage that we are not quite sure of.

I wonder if other readers of The Flower Grower have had a similar experience?

A. S. Parker.

LET US HAVE "*PEACE*."

Perfect *Peace* depends upon circumstances. The Glad of that name has the same characteristics. Several years ago I received from Cowee, one dozen *Peace*. When planted seven came up promptly and bloomed as *Peace* should; the other five failed to show a leaf. The garden was plowed in the fall and again in the spring, when in May up came the missing five, misplaced by rough treatment, but they had lived through the winter. In 1918 *Peace* bloomed so late the bag of bulbs in the fall was labeled "plant early" and early they were planted in 1919, some thirty fine bulbs, when lo, *Peace* was the second earliest to bloom and continued until fall, spike after spike. When dug in October (late) 18 of the largest weighed five pounds, three largest one pound, hereafter, *Peace* shall have possession of the ground early and "long live *Peace*."

Mrs. G. W. Bain.

CALADIUM ESCULENTUM.

This plant is generally known as a foliage plant and is so used, and the beauty of its flower is not generally understood. It has a flower similiar in shape to a Calla Lily, but more then twice the size and of a light yellow color. Caladium Esculentum will bloom freely if planted in a situation suitable for a swamp plant. It should have plenty of water after the second leaf is started and should have all day sun. It should not be planted on an elevation, but in a depression if possible so as to have its roots in water.

J. H. Schlachter.

HEMEROCALLIS.

Hemerocallis *fulva,* double flowered *variegata,* is one of our richest flowering plants, unlike the single variety it does not have the bad habit of going beyond bounds. It is long in bloom when flowers are not so plentiful as when the yellow Day Lily is in bloom, and with its long graceful foliage, it makes a superb specimen plant on any well kept lawn the entire season. It is liable to revert back to its original plain leaves. Each one of these should be pulled out as soon as they appear, when we have the most beautiful of all the hardy variegated foliage plants.

S. A. P.

CORN BORER QUARANTINE.

Our town with three other townships bordering on the city of Buffalo have been quarantined. We cannot ship any flowers into the market, also sweet corn on account of the Corn Borer which has made its appearance in our town. Could you tell me how to detect it if it is found working in my Glads? The government does not give us any remedy. They tell us we can grow them but not to send them out of the town without a special permit tied on each shipment which is impossible. Kindly print this in The Flower Grower as it might interest some of your readers.

L. L. Gressman.

Value of Wood Ashes.

The value of wood ashes in gardens, both for fruit and vegetable growing, cannot be overestimated, particularly where the soil is inclined to be heavy. They then not only act as a fertilizer, but also as valuable agents in raising the temperature of such soils, besides operating in a beneficial manner in keeping them open, and so rendering them more easily worked. On lighter soils wood ashes are also serviceable, only in a less degree, because the lighter the character of the staple the less need is there for their application generally, the exceptions being in cases where wireworm and maggot are troublesome and where the soil has become nothing but a mass of humus from repeated and heavy dressings of manure. This latter is often found to be the case where the soil is anything but light, and, although the presence of so much humus is not then quite so detrimental, both in this and the former instance the soil would be greatly benefited by the application of a good dressing of wood ashes for a season or two instead of manure. These wood ashes, containing as they do a considerable amount of carbonate of potash—the quantity varying according to the materials used at the time of burning—sweeten humus-laden soils, so to speak, and counteract the evils arising from a too free use of organic manures. Again, the more charcoal the ashes contain, the more is their value enhanced, as this takes up and retains moisture, which is thus stored ready, as it were, for absorption by the roots of both plants and trees, as the case may be, when they come into contact with it.

On wireworm and maggot-infested soils wood ashes are of special value, as they greatly assist in getting rid of the troublesome pests if their application is steadily persisted in. They should then be applied as a surface-dressing at the time the seeds are sown, in addition to giving the plot a good dressing when digging, taking care to incorporate them well with the staple. For sowing in Potato drills after the planting is finished and before closing in the drills, they are of the utmost service, and act as a first-rate fertilizer. For getting rid of fly on the seed-beds of all the Brassica tribe, nothing can equal wood ashes, only they must be applied in a dry state, while they can also be used on Turnips with similar effects.

The use of wood ashes in connection with fruit-growing is also well known. Here they are valuable in many ways, but principally for incorporating with other constituents when forming new fruit-tree borders. They are also used for mixing with new compost in transplanting of fruit trees when it is necessary to place some new soil over and round about the roots. As a surface-dressing for fruit-tree borders wood ashes play an important part, as, in addition to their rendering valuable manurial aid, they also heighten the colour of the fruit. Again, they may be used with excellent effect in the pot culture of orchard-house trees when mixed with other ingredients, also for Pines and Tomatoes. Wood ashes are also useful in the eradication of Moss on lawns.—*Gardening Illustrated.* (English)

The Glad Philosopher's Musings.

Shall we grow flowers and give them away? This question might well be considered as undebatable, as it is one that each individual has the right to answer for himself. While I agree that the brazen-faced flower beggar should be squelched, and squelched good and hard at that, I prefer to err, if err I must, on the side of generosity rather than of parsimony.

Josh Billings once facetiously remarked, "I have decided henceforth to neither borrow nor lend—especially lend." Consistency demands that the person who refrains from bestowing favors should not accept favors from others. Why not let us each, individually, answer this question for himself after having first measured it up carefully with the Golden Rule of the Nazarene?

The gospel of happiness is based on giving. "It is more blessed to give than to receive," expresses the basic truth upon which genuine happiness is founded. In our English language, miserly and misery are words that have a common derivative. Do you grow flowers merely for your own selfish gratification? If so, you are defective in the social graces and your selfishness stands in the way of the happiness that comes as a sure reward to those who give, and give ungrudgingly.

There is a happiness that comes with getting, and a happiness that comes from giving, but the quality of the miser's happiness is vastly inferior to the happiness of the philanthropist.

I have nothing but pity for the poor deluded being who would rather be rich than happy. I mean the person who sacrifices his chances for happiness because of an overwhelming and inordinate greed for money-getting. I have known men who spent practically all their time within the dingy confines of a stuffy bucket-shop watching the ticker quotations chalked up on the blackboard and then finally died poor. And their poverty in money was nothing as compared to their poverty of soul.

"Complaint," said Dean Swift, "is the largest tribute Heaven receives and the sincerest part of our devotions." How easy and how natural it is to complain. The weather is too hot, or too cold, or too dry, or too wet—something is always wrong for the chronic complainer.

Did you ever observe that it's the little things that cause the greatest troubles? Of bacterial origin are most of the serious diseases of both plant and animal life. It is easy to dig the docks and plaintains from our gardens, but the insignificant little chick-weed fairly defies our efforts to eradicate it. Likewise, it's the little men, the ones that are small in principle—soul-stunted—that give the world the most trouble.

"Flowers have an expression of countenance as much as men or animals. Some seem to smile; some have a sad expression; some are pensive and diffident; others again are plain, honest and upright like the broad-faced Sunflower and the Hollyhock."—Henry Ward Beecher.

There's something noble in the bearing of the Sunflower. It is a true optimist, always looking up at the sun with a smile on its big, broad face, as if saying appreciatively, "I thank you," and like a big manly man, it is always trying to reflect sunshine. It is significant, too, that the Sunflower is a dispeller of malaria if planted in miasmic locations.

The Glad Philosopher.

Reduced Subscription Rate to be Withdrawn July 1st.

About March 1st we sent a circular letter to all subscribers offering a greatly reduced rate to those who would send in new subscriptions in clubs of three or more. This rate is still in effect and will not be withdrawn until July 1st. It is not likely that this special rate will be repeated. Subscribers coming in since this special offer was made can have one of these circular letters on request.

Don't forget also that we need the names of all flower lovers for the purpose of writing them about The Flower Grower. Our subscription list has been greatly increased during the past few months through the efforts of our friends, but costs of publishing keep mounting and many additional subscribers are still needed. Take advantage of the present special low rate while it is still in force. It cannot be repeated.

The American Iris Society.

The Iris season is here, our appreciation and enthusiasm is at its height over the beauties of the newly opened blooms and yet this is the time for hard study, for the observance of details that will make our gardens still lovelier another year and give us notes for reference and discussion through the dull months. The season is all too short though even now on May 1st my *Iresis* are beginning. As you read they will be in their prime, and even in July they will be carrying color.

What I always think of first is the general effect, loose stalks of bloom are borne from one clump to another, sometimes for close comparison, sometimes with new color combinations in view, and then perhaps, spade in hand, I actually shift a well-flowered clump for more decorative placing. This last is not wholly satisfactory either this year or next, but there is no chance of negligence at least. But it is the dryer, less alluring things I must urge upon you all, the gathering of descriptions, hybridizing, the judging and comparing of your varieties one with another, and always in the background, the idea of a future symposium and classification; the first will bring about the discard of poor varieties in time and the last will do much to assist in the correction of nomenclature and the proper listing of too similar varieties. You are familiar with the present groupings, pallida, etc., which first introduced by the Belgian growers Krelage & Sons in 1892 is now outgrown, so broadened in application by the addition of new introductions as to be valueless to the purchaser. About 1916 R. Wallace & Co. of Colchester, England, first made a brief classification based on color and it is from their 1919 catalog that I present this method.

CLASSIFICATION.

A committee of the Royal Horticultural Society has been studying this subject for some years in connection with the Iris Trials at Wisley and I am glad that we are to have the privilege of co-operating with them this year. Their preliminary work is not for publication, but color, not botanical relationship, will form the major subdivisions. I give four suggested schemes (three of them fundamentally the same) as proposed by members of our Committee on Nomenclature. They are presented in simple form, without comment though I have introduced similar terminology in all and given examples in some cases. Try them out while your Irises are in bloom and let us know your opinions.

First—As proposed by A. J. Bliss in The Garden, Feb. 7, 1920:

Class I—*White*—1. White selfs; 2. White ground plicatas; 3, Amoenas, (Thorbeck.)

Class II—*Bicolors*—1. Blue neglectas; (*Black Prince, Perfection.*)
2. Red neglectas; (*Monsignor.*)
3. Blue pallida bicolors, (*Oriflamme.*)
4. Red pallida bicolors.

Class III—*Purple Selfs*—1. Blue selfs, (*pallida Dalmatica*); 2. Red selfs, (*Caprice* or *Queen of May.*)

Class IV—*Blends* (squalens)—1. Light.
2. Dark, (*Alcazar*); 3. Red, (*Jacquiniana*); 4. Yellow, (*Eldorado*).

Class V—*Yellow*—1. Variegata; 2. Yellow ground plicata; 3. Yellow selfs.

Second—From 1919 Catalogue of R. Wallace & Co.:

Sub-divided into April, May and June flowering.

Class I—*White self.*

Class II—*White feathered with purple* (plicata.)
(a) Color confined to margins of standards, (*Mme. Chereau.*)
(b) Color suffused through standards, (*Parisiana.*)

Class III—*S. white or slightly tinted. F. purple,* (amoena.)

Class IV—*Purple Bicolors.*

Class V—*Purple Selfs.* (a) lavender, (*Albert Victor*). (b) Blue-purple, (*Brionensis.*) (c) Red purple, (*Caprice.*)

Class VI—*Yellow Selfs.*

Class VII—*S. yellow, F. purple.* (a) S. pale, (Gajus). (b) S. deep, (*Honourable.*)

Class VIII—*Shot shades.* (a) Yellow predominating, (*Eldorado.*) (b) Lavender predominating, (*Nuee d'Orage.*) (c) Purple bronze effect, (*Alcazar.*)

Class IX—*Lilac and Rose Shades.* (*Her Majesty, Isoline.*)

Third—As proposed by C. H. Hall, Pennsylvania:

Class A—*White.*
1. Blade of Standards uniform coloring (self.)
   (a) F. uniform coloring; (1) self; (2) bicolors, velvety or non-velvety.
   (b) F. marked or shaded throughout, with light or dark borders. (*Rhein Nixe.*)
2. Blade of Standards marked or shaded.
   (a) F. uniform, etc. (b) F. marked or shaded similar or different from the standards. (*Mme. Chereau.*)

Class B—*Yellow*; C. *Red*; D. *Blue*; E. *Bronze and Gray effects,* each class divided as in Class A.

Fourth—As proposed by R. S. Sturtevant in The Garden, Jan. 31, 1920.

Class I—Self. (In effect.)
A. White; B. Yellow; C. Pink, clear or crude; D. Lavender, light or dark; E Blend, pink, yellow, or lavender predominating. (*Afterglow, Queen Alexandra.*)

Class II—Bicolors.
A—Blade of Fall unveined, velvety or not velvety. (*Jacquiniana.*)
B—Blade of Fall veined, velvety or not velvety.

Class III—*Plicata.*
A—S. Veined throughout. (*Mrs. G. Reuthe.*)
B—S. Margined. (*Jeanne d'Arc.*)
C—S. Inconspicuously marked. (*Pancroft.*)

* Minor divisions on white lavender, yellow or blended grounds.

I am afraid that all this will prove difficult of comparison but search among your varieties, particularly among your seedlings, and try to place the most unusual of them all somewhere in each classification; that is the final test. Will the scheme prove a key to identification? I think that you will find the terminology familiar, the colors red, blue, or pink are merely suggestive and who does not recognize a self or a bi-color, venation, borders, or markings? If we can work out a really good classification, gather together complete descriptions of all varieties, will it not be possible to compare, even to name, varieties from our records and so to supplement the much slower work of our Trial Gardens.

NOTES.

By the way, I have had little response from our appeal for lists of stock available for trial plantings. Many, if not most of you are surely generous and yet it seems as though your Secretary and the small committee in charge would be obliged to write to each of you personally to procure your support. There are at least 380 members now, do you really intend to ask so much of a few of us? July is the time we want the plants, but we need the lists to choose from *now*. Do your share in helping us establish gardens that will introduce to many city dwellers the beauties of our favorites.

I have been much interested in the first Official Data Card, filled out and returned from a rank amateur in Chihuahua, Mexico, but if he didn't describe *albicans* I am much mistaken. I do not expect to be able as yet to name all the unnamed descriptions sent in, but surely this first report has a pleasant promise. The data cards will be sent on request and we now have an accompanying card which explains diagrammatically terms of shape and carriage. We need these descriptions for future report, they may be added to your garden files and breeders who wish to register new varieties should send in as complete descriptions as possible. At present our Registration is of name only, but it is only a matter of experience before we will be in a position to give provisional advice as to new varieties and a final judgment in our trial grounds. In the last few years there have been at least 250 new introductions, the present popularity of the Iris will greatly increase this number, the Society must step warily if it is to help its members to select only the best.

EXCHANGE.

Another matter has come up that I think may prove of interest to many of you and that is "Where can one procure certain species?" In justice to our many commercial members the Society cannot establish an interchange of listed varieties but there are many species not in the trade. I know of but one dealer supplying Spanish and English Irises, reticulata, histroides, the Junos, even the Indian pogoniris Griffithii and Collettii are apparently unobtainable. Then some of us want native species, cristata alba for example and the California species which are difficult to transplant must be raised from seed. If you want or can supply things in these lines, let us get together, but remember that I can only refer you to nurseries for listed varieties.

Just a chat on what is in the garden here this early May. Iris *reticulata* is gone and down almost below the ground surface pods are forming; I can feel the buds in the pumila hybrids and the first Korolkowi crosses and a number of the Junos are showing color. The Korolkowi hybrids are very apt to be weirdly blotched and streaked with dingy olive or purple but a few throw graceful small flowers of clear deep lavender, nothing wonderful but of interest to the fancier. The Juno *sindjarensis* I have bloomed before, but the others will be new to me and the following from a recent letter from Mr. Morrison is promising:

> "The white *orchioides* came first, a very charming pale thing with green and palest yellow tones in the falls; then the yellow type, just the color of *pseudo-acorus* and then the pale green blue-lavender which has continued in bloom the longest. And in the meantime *bucharica* has opened. It is a beauty and such fragrance! There is considerable variation in the shades of yellow and white among my dozen bulbs but all are so pure and clean. Last of all came the cross, orchioides x bucharica, an entirely yellow bucharica in effect."

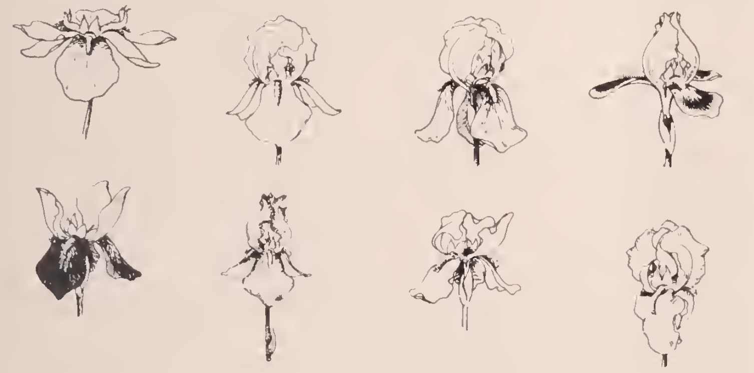
The seeds are starting to germinate, beginning their growth at the same time as their parents, the pumilas and intermediates first. It hardly seems possible that many of them will bloom next year, they are so small and hard to see now.

The Bulletin on Culture we plan to send out in June, with July come the report on Exhibitions, (I hope that all of you can and will compete if you have not already done so,) and the Annual Meeting. There is much else in store but I count on each of you to do your share, tell me your needs, your pleasures, help us to establish many show gardens, but above all now that Irises are in their glory show them to your friends and so arouse their interest that you will have many fellow members of The American Iris Society right in your vicinity ready to discuss, ready to aid in a local exhibit or planting another year.

R. S. STURTEVANT,
Wellesley Farms, Mass.

American Iris Society.

To Illustrate Carriage of Standards.



S. flat. S. overlapping S. arching, cupped S. conic arched

S. cupped, erect S. tips adpressed S. floppy S. domed, over-arched

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The Iris Family.

Willard N. Clute, in his valuable little botanical textbooklet entitled "Some Common Plant Families" has the following about the genus Iris:

"A third group resembling the Lilies is known as the Iris family (Iridaceae.) The members of the genus Iris have a general resemblance that makes them easily recognized, but other members of the family are quite unlike Irises in appearance. They may, however, be readily separated from the Lilies by their epigynous flowers, that is, flowers that seem to spring from above the ovary. From the epigynous flowers of the Amaryllidaceae, the Irises may be distinguished by the fact that they have but three stamens. All the Iridaceae have a six-parted perianth, but in the flowers of the genus Iris there is a puzzling arrangement of sepals and petals that often confuses the beginner. The stamens, however, are opposite the sepals and this gives a clue to the arrangement of the other parts. There are about 1,000 species of the Iridaceae, all of which are herbs and found mostly in the Old World. Nearly all are noted for the beauty of their flowers. Among familiar species are Gladiolus, Crocus, Blue-eyed grass and Montbretia. Orris root is the dried rootstock of a species of Iris.

It has been a late spring and the Irises this year are blooming late and at about average blooming date of Peonies taken one year with another.

Northwestern Peony and Iris Society.

W. F. CHRISTMAN, *Secretary.*

An Iris Show will be held in the lobby of the Northwestern National Bank in Minneapolis early in June under the auspices of the American Iris Society, assisted by the Northwestern Peony and Iris Society. Entries should be made with Prof. Leroy Cady, at the University Farm School, St. Paul. The show is open to all exhibitors. Announcement of the exact date will be made in the daily papers about June 1st and this information can also be obtained from Prof. Cady.

The Northwestern National Bank offers a silver cup as a Sweepstakes prize and the American Iris Society offers bronze and silver medals, and Certificates of Honorable Mention for meritorious seedlings. Prizes of Iris plants are offered by the American Iris Society and others, as indicated in the schedule of prizes.

The following is the schedule of classes and prizes:

Class 1—Collection of 30 distinct varieties, 1 stalk of each. 1st, Silver Medal; 2nd, Bronze Medal; 3rd,——

Class 2—Not more than 24 varieties nor less than 12 varieties, 3 spikes in a vase. 1st, 2nd, 3rd.

Class 3—Not more than 12 varieties nor less than 6 varieties, 3 spikes in a vase. 1st, 2nd, 3rd.

Class 4—Collection of 6 distinct varieties, 1 stalk of each. 1st, 2nd, 3rd.

NOTE—An exhibitor may compete in only two of the above classes, either 1 and 4 or 2 and 3

Class 5—Collection of 6 distinct varieties, self-colored, 3 stalks of each. 1st, 2nd, 3rd.

Class 6—Collection of 6 distinct varieties of bi-colors, 3 stalks of each. 1st, 2nd, 3rd.

Class 7 Artistic arrangement of Irises with or without other hardy flowers and foliage in receptacles suitable for public display. 1st, 2nd, 3rd

Class 8—Artistic arrangement of Irises with or without other hardy flowers and foliage in a vase or other receptacle with an opening of not over 5 inches, suitable for home decoration. 1st, 2nd, 3rd.

NOTE The material used in arrangements of classes 7 and 8 need not be grown by the exhibitor.

Class 9 Collection of Irises raised from seed by the exhibitor. No prizes, but all varieties of merit will receive American Iris Society Honorable Mention. Varieties receiving such awards should be registered with the American Iris Society and descriptions filed immediately. Merit will be judged on point value.

Class 10 Collection of Irises, not bearded, 3 stalks of each, (including siberica, etc.) 1st, 2nd, 3rd.

Class 11—Specimen stalk. 1st, 2nd, 3rd. To be judged on the intrinsic merit of the variety, point-value.

The following classes are not open to commercial growers nor to exhibitors in classes 1, 2, 3, or 4.

Class 12—Collection of 3 distinct varieties, 1 stalk of each. 1st, 2nd, 3rd.

Class 13—Vase of 3 distinct varieties, lavender bi-colors, 1 stalk of each. 1st, 2nd, 3d.

Class 14—Vase of 3 distinct varieties, rose and lilac shades, 1 stalk of each. 1st, 2nd, 3rd.

Class 15—Vase of 3 distinct varieties, white, or blue and white, 1 stalk of each. 1st, 2nd, 3rd.

Class 16—Vase of 3 distinct varieties, yellow standards, 1 stalk of each. 1st, 2nd, 3rd.

Premium List:

Class 1—1st prize, Silver Medal; 2nd prize, Bronze Medal; 3rd prize, Iris *Ambigu*, value $6.

Class 2—1st prize, Iris *Avalon*, value $25; 2nd prize, *Shekinah*, value $15; 3rd prize, *Fryer's Glory*, value $5. All other prizes are to be stock prizes, the winner making his selection from the proper list, one plant for each prize.

List for 1st prizes, classes 3, 4, 5, 6, 7, 8 and 11. List value $2 to $6.

By W. E. Fryer—*Margaret Sheridan, Minnesota, A. W. Latham, Mrs. W. F. Christman, A. W. Braud.*

By W. F. Christman—*Zua.*

By A. I. S.—*Afterglow, Alcazar, B. Y. Morrison, Carthusian, Lady Foster, Eduard Michel, Lord of June, Goliath, Queen Caterina.*

List for 1st prizes, classes 12, 13, 14, 15, 16.

List for 2nd prizes, classes 3, 4, 5, 6, 7, 8 and 11. List value 50c. to $2.

By W. E. Fryer *W. F. Christman, Clarence Wedge, G. W. Peake, Mrs. W. E. Fryer.*

By W. F. Christman—*Monsignor.*

By A. I. S. *Annie Leslie, Archeveque, Dawn, Eldorado, Iris King, Isoline, LaNeige, Prosper Laugier, White Knight, Black Knight, Sarpedon.*

List for 2nd prizes, classes 12, 13, 14, 15, 16.

List for 3rd prizes, classes 3, 4, 5, 6, 7, 8 and 11. List value 50c. to $1.

By Rainbow Gardens—*Edward VII., Odoritissima, Oriflamme, Catarina, Monsignor, Lohengren, Datedogu* (Jap.)

By A. I. S.—*Albatross, Juniata. Laute, Mrs. Alan Gray, Oriflamme, Parisiana, MaMie, Rose Unique, Tamerlane, Ingeborg, Wyomissing, Windham.*

List for 3rd prizes, classes 10, 12, 13, 14, 15, 16. List value up to 50c.

By A. I. S.—*Etta, Lorely, Walhalla.*

By Mrs. H. B. Tillotson *Madam Chereau.*

By T. A. Kenning—*Her Majesty, Jazquesiana, Victorine, Julius Cæsar.*

By Rainbow Gardens—*Rhein Nixe, Otorige* (Jap.)

List for 1st prize Class 10, By American Iris Society *Chrysographes, Wilsoni or Orientalis, Emporer.*

List for 2nd prize—Class 10, By American Iris Society—*Siberica* or orientalis in blue, white or lavender.

"Snapdragon Rust" is the title of a bulletin issued by the Agricultural Experiment Station, University of Illinois, Urbana, Ill. It covers the subject in a somewhat technical way, but gives an interesting summary and recommendations which are helpful and interesting. We believe that this bulletin may be had on application.

Bound volumes of THE FLOWER GROWER and THE MODERN GLADIOLUS GROWER may be had while the supply lasts for $2 each postage prepaid.

Color Harmony in Flowers.

BY WILLIAM H. PHIPPS.

[*Written expressly for The Flower Grower.*]

As a preface to the following article the writer wishes to say that what follows is written from the standpoint of flower colors alone and he has therefore only touched the subject, his purpose being to aid the flower grower, if he can, by a short talk on color harmony in a primary way and not from an intricate scientific standpoint.

We must again consider the color spectrum:

- Colors of the Spectrum.
  - Primary
    - Blue
    - Red
    - Yellow
  - Secondary
    - Orange
      - Red
      - Yellow
    - Green
      - Blue
      - Yellow
    - Violet
      - Blue
      - Red

Equal parts of any two primary colors mixed together yield secondary colors. From this you will see that the three secondary colors are binary colors or are compounds of two primary colors. Broken colors are defined by Chevereul to be colors in which all three primaries exist; luminous colors—yellow, orange, red, light green and the light tones of sombre colors; sombre colors,—blue, violet and the broken tones of the luminous colors.

TONES—The series of gradations of a color from the greatest intensity, weakened by the addition of white, or deepened by the addition of black.

HUE—The change produced in a color by combining with another color or colors in which the original color must predominate.

TINTS—Change in the original color by adding white to the normal color.

SHADES—Will not be discussed since the term means the tone of color produced by adding black to the normal colors.

The following is the composition of Green and Orange in a yellowish gray:

- Green
  - Yellow 2 parts.
  - Blue 1 part.
- Orange
  - Red 1 part.

You will see from this that yellow predominates, hence the yellow tone prevails—Why is this? Refer to our color charts and you will see that:

Blue and yellow mixed produce green.

Red and yellow mixed produce orange.

Yellow appears in green and orange, blue in green and red in orange, hence the composition is as above stated.

Harmony of colors may be divided into two general classes: 1st Harmonies of Analogous Colors, and 2d Harmonies of Contrast.

1st. Harmonies of Analogous Colors:

A. Harmony of scale of color.

B. Harmony of hues belonging to scales more or less approximating.

C. Harmony of a dominant colored light, proceeding from the simultaneousness of tones of nearly the same height belonging to approximating scales.

2nd. Harmony of Contrast:

A. Harmony of contrast of scale arising from two distinct tones of the same scale.

B. Harmony of contrast of hues arising from different heights, belonging to contiguous scales.

C. Harmony of contrast of colors belonging to widely different scales.

In the harmony of contrast, the complimentary assortment is superior to every other; the tones must, however, be of about the same intensity. The primaries grouped in pairs assort better as a harmony of contrast than an arrangement formed of one of the primaries and a binary of which that primary is an element, for instance:

Blue and yellow harmonize better than red and orange because orange contains red as one of its elementary colors.

Red and blue harmonize better than yellow and violet because violet contains red as one of its elementary colors.

Yellow and red harmonize better than yellow and orange because orange contains yellow as one of its elements or elementary colors.

Red and violet harmonize better than blue and violet, yellow and orange harmonize better than red and orange, yellow and green harmonize better than blue and green. When two colors do not harmonize when together, separate them with white, the contrast accentuates each color and brings out latent beauties.

Black never produces a bad effect when placed between luminous colors and always should be placed between red and orange; blue and violet and broken tones of luminous colors, viz. yellow orange, red, light green and light tones of blue and violet. However, if black is not available then white should be used. White should always be used between red and blue, orange and blue, red and violet, orange and violet, yellow and blue, green and violet, green and blue. When we desire to bring out brilliancy we resort to contrast. In the selection of flowers for a bouquet or the decorations for a room or a house, the principal is the same. When one is free to choose he will consider the aspect of the room and whether the light be natural or artificial, some flowers, beautiful in daylight, are killed by electric lights. We must never lose sight of this and in many instances it can only be determined by experiment.

Tone of color is of equal importance with color. Deep tones sometimes produce a crude effect when if light tones of the same color were used the effect would be pleasing. It is in the flower garden that the color artist may revel in resources for color and his arrangement may be made to bring out each color, hue and tint, so that they stand out in their full glory and beauty, but how sadly this is overlooked in most gardens. Size, form and contrast can be used so marvelously that we often wonder at the lack of art in our gardens. Bearing in mind these principals in planning your garden, remember to bring out by contrast the flowers which shall attract. Do you want your garden to be restful? Then avoid placing flowers in juxtaposition where the colors will not harmonize, or as we sometimes say "clash." If you have done this it must be remedied at the earliest possible moment.

Just a word more to bring the idea concretely to the reader and bearing in mind colors which are mutually complimentary, we must arrange with the following harmony chart in mind:

FLOWERS—Yellow flowers accord well with blue flowers; yellow, more green than orange, go well with red; deep red flowers harmonize with deep blue flowers; orange flowers go well with violet flowers; white flowers go well with all these arrangements.

We must separate:

Pink flowers from scarlet or crimson; orange flowers from orange-yellow flowers: yellow flowers from greenish-yellow flowers; blue flowers from violet blue flowers; red flowers from orange flowers; pink flowers from violet flowers; blue flowers from violet flowers; red flowers from brick-red flowers.

The last is because the duller red is killed by the luminous color of the primary red. In the application of the law of contrast to arrangement of flowers we must not forget to consider various heights and shadings of light so as to produce the desired effect. Do not make a dark, shady nook in your garden still darker by plants of sombre hue and do not make the mistake of associating German Iris with the light violet of Lilac. Suppose instead we add Persian Iberis, and red Tulips on one plane and deep blue and light Violets on a more distant plane, we thus obtain an arrangement of pleasing effect. Repetition of arrangement produces a pleasing effect as does a solid mass of one color.

The writer wishes to acknowledge his indebtedness for his authority for the statement of principles here involved to the following:

Bailey's Cyclopedia of Horticulture, Century Dictionary, The Encyclopedia Americana, Cornell Extension Bulletins, Chevereul on "Color," Encyclopedia Brittanica.

The arrangement of diagram is our own.

American Gladiolus Society.

The following named Gladiolus has been offered for registration by Vaughan's Seed Store, Chicago, Ill. If no objection is filed with the committee before June first the registration becomes complete. The following is the introducer's description:

Name—*Mrs. H. A. Caesar*

Description:

" This seedling Gladiolus is a cross of *America* with *Sunbeam*.

Its habit of growth is more robust than *America*, and with same flowering season.

The length of spike is about the same but it produces more buds, frequently showing five to eight open flowers, well placed on the spike.

The color is a beautiful lavender shading to lilac with a yellow dash in the lower petals. Admirers have called it Orchid Beauty. The spikes are uniformly straight and upright, with no crooked stems."

A. C. BEAL,
Chm. Nomenclature Com.

Growing Cyclamen from Seed Without a Greenhouse.

A Symposium of Experiences of Several Growers.

[*Written expressly for The Flower Grower.*]

A healthy Cyclamen is a beautiful and satisfactory winter blooming plant. It bears graceful flowers for a period of several months and the individual blooms remain fresh for some time. Its handsome leaves are nearly as attractive as its lovely flowers. The foliage of some of the variegated sorts, being especially decorative. Some varieties have also a very delicate, lily-like fragrance. By using correct cultural methods, these desirable plants may be grown from seeds without the aid of greenhouse facilities. With intelligent care almost every vital seed will germinate in from four to five weeks' time, and unless growth is retarded by neglect or mis-management, the plants will be of a blooming size when a little over a year old.

These plants are best propagated by sowing seeds in a compost consisting of sandy loam and leaf mold, that must be kept constantly moist but not too wet as that might cause the roots to rot. Partial shade is recommended. A shallow seed "flat" will be found convenient and quite satisfactory. When the little corms which form are about the size of a garden pea or when the seedlings crowd each other, they should be carefully transplanted separately into pots filled with rich, porous, sandy earth in such a manner that the crown of the corm is above the surface of the soil. The plebeian tin can, because it allows of less evaporation of moisture, seems to serve the purpose better than the porous flower-pot. If the ordinary pot is used, it is wise to set it within a larger pot and fill the space between the two pots with damp Sphagum moss to retain moisture and protect the roots of the Cyclamen from the ill effects of having the sun's rays fall directly on the sides of the pot in which the plant is grown. The atmosphere in the room should also be kept always moderately cool and moist by keeping shallow pans of water upon radiators, registers or stoves.

Before they are a year and a half old the plants should be in bloom and continue so for several months. Should a plant fail to produce flowers, a little slaked lime and bone dust carefully mixed into the top soil will prove of benefit. A little liquid fertilizer will help to give tone. A Cyclamen that has been regularly but not too copiously watered, kept in a well lighted place, and shielded from sudden draughts will seldom fail to produce buds. Sometimes the buds blast if the temperature of the room is too hot and dry or if the soil in the pot is allowed to dry out.

After a season of winter bloom the plants should be moderately watered and kept in a healthy growing condition until it is safe to plunge the pots out doors or bed the plants out in a partially shaded situation. Should the season prove dry, it will be necessary to give the plants water regularly, for they cannot withstand a drought. Some kinds of plants are benefited by being allowed to dry off during their resting period but the Cyclamen is positively injured by it. The plant should always be kept in a healthy growing state. In early autumn repot and encourage active growth before returning the Cyclamen to the window garden, where with favorable conditions it will soon resume blooming. Though the Cyclamen will continue to give satisfactory results for a number of years, the old corms finally deteriorate. As the younger plants of blooming size are more thrifty and produce finer flowers, new plants should be started every year or two in order to provide a continuous supply of plants old enough to bear flowers.

An attack of red spider, which causes the foliage to turn brown, curl up and dry off, the buds to blacken and drop, may be prevented by sprinkling the foliage of the Cyclamen every other day at least. When well cared for the Cyclamen is a particularly desirable addition to the window garden, but it will become unsatisfactory if subjected to improper treatment or neglect.

BERTHA BERBERT-HAMMOND.

Two years ago this spring I bought a packet of mixed Cyclamen Gigantium, 13 seeds, which were planted about one-fourth of an inch deep in a cigar box filled with potting soil and covered with a pane of glass. The first leaves appeared in twenty-four days. A tiny bulb grows first, then a small heart-shaped leaf and roots grow from that. I had nine plants; when large enough, I took them up with a teaspoon and planted in small pots. Last fall they were repotted and bloomed during the winter, a fine assortment of colors. The largest leaf measured five and one-half inches across. These bulbs grew and bloomed in a west window of our living room.

MAY B. CRANE.

According to my experience, Cyclamens are very easy to raise from seed requiring only a stock of patience.

The seeds are quite large and very sure to germinate but also very slow. Sow them in a flat or ordinary flower pot and keep in a warm room. Keep them covered with glass until they begin to germinate and be sure to keep the soil moist.

In order to have flowers next winter the seed should have been planted in January. As soon as the seedlings have two or three leaves transplant into three inch pots and repot into five inch pots for blooming. Keep them growing until they reach blooming size. After they have bloomed set the pots outdoors in a shady place and water just enough to keep the fleshy roots from drying up. The leaves will gradually ripen and drop off. In August new leaves will begin to grow and then the plants should be repotted in a size larger pot and given careful watering.

The secret of growing Cyclamens in the living room is to give them porous, well drained soil and always keep the soil moist. If they are allowed to dry out the buds will blast. I find it a great help to set the pots in saucers and pack the remaining space in the saucers with Spagnum moss, keeping it continually moist. Sometimes I put a layer of the moss in the top of the pot around the Cyclamen bulbs too. A well grown Cyclamen makes one of the most satisfactory house plants and will thrive in a window which does not receive much sunlight.

MRS. F. A. LORENZ.

The seed of Cyclamen are best sown, from the latter part of August to the end of September. They should be grown on to the flowering stage without any check, and are most satisfactory when grown cool.

Sow the seed as follows:—Use shallow boxes about two to two and one-half inches deep, filled to within one-half inch of the top with finely sifted light soil. Sow thinly and cover the seed lightly to a depth of only about four times their size. Press the surface gently with a board to "firm" the seed in the soil. Place in a sunny window of a temperature of about 65 degrees. Water with a very fine spray so as not to wash the seed out of the ground. Keep the soil as evenly moist as possible, not too wet, and never allow to dry out, particularly before the seeds are up and when the seedlings are small.

After the third or fourth leaf appears, transplant to a similar box to one inch apart. When large enough transplant to two inch pots and shift to larger ones as the smaller are outgrown. This can be determined by examining the bottoms of the pots for roots. Do not wait too long after roots show at bottom of pots, before transplanting, as delay here will set the plants back and may result in failure.

Cyclamen seed should germinate in from twenty-five to thirty days.

CHAS. E. F. GERSDORFF.

During February put seed in a good sized flower pot and keep soil moist. It takes quite a time for seed to germinate. Then when time to plant out of doors I put them in a cool, shady, moist spot.

The first part of September dig up and put in pots and let stand in same place until time to take in. They will have quite a few blossoms on the first winter, but will not be as large as the hot house ones.

Every spring I set them in the ground; in this way they seem to take on new life and grow more rapidly. The second winter they are generally a mass of bloom.

Christmas, 1918, I had one plant on

my table with forty blossoms and ten buds, and it certainly was a beautiful sight. I now have sixteen small plants in the house.

MRS. F. C. YELVERTON.

Sow the seed as early as August or late July in a five inch flower pot, using a soil one-fourth sand, one-fourth friable leaf mould and one-half good loam, all put through a quarter inch mesh sieve. I say "flower-pot" because with all the seeds of these greenhouse plants I get better germination and stronger seedings by starting in pots than boxes, I presume because the sides of the pot admit a certain amount of air to the dirt. Place the seeds, not more than 20 to a pot, on the surface of the soil. With the end of a match push the seed into the dirt about one-eighth inch. The soil must not dry out during the germination period, not even once, nor must it be muddy. The best way to water is to set the pot in a pan of water until the surface of the soil is all moist. This may take hours or a much less time according to the nature of the soil, but then take the pan away. Repeat the process when the surface commences to dry. Twenty-one days is the minimum germination period and forty about the maximum. Keep just on the edge of sunlight at all times until November 1st, when plant can be put in full sun in a warm room.

Do not expect rapid growth. Six to eight small but sturdy leaves should be all that is produced by, say Feb. 1st. When the third leaf appears put into three inch pots with the bulb just half way into the soil, never more. Potting soil should be the same as for the seed. These pots will accommodate your plants till the following mid-summer, when they should go into five inch. You should again put your plants on the edge of the sunlight about April 1st and keep them there till October. Nineteen to twenty-four months are required generally to flower a Cyclamen. The temperature requirements are cool tops and warm roots so do not put on your lowest window in the house but rather on a shelf midway and always take out of the window on cool nights.

Florists sow Cyclamen seed in September but have facilities for getting more rapid growth than is possible in the house.

PAUL L. WARD.

After it was seemingly settled that the American Gladiolus Society's annual show would be in Boston, the question of holding the show in Cleveland was taken up, and this location was seemingly settled on. Now, at the last moment, we have word that the offer of the Massachusetts Horticultural Society to hold the show with them in August is still open, and that the American Gladiolus Society's annual flower show will be held in Horticultural Hall, Boston, Mass., in August, exact dates to be published later. Boston is a good flower show town and the facilities offered by the Massachusetts Horticultural Society are equal to any in the country.

Seeds from Past Ages.

[*Written expressly for The Flower Grower.*]

I have a little opinion about your note on page 40 in March number. You seem to believe that seeds sprout up from past ages and that there springs up very unusual and unknown plants upon battlefields and excavated places. Most of these supposed instances are stories or opinions. The vitality of seeds is not so great as this would necessitate. The stories of seeds from the pyramids thousands of years old are thought to be myths. Seeds are living embryo plants, they seem to be able to rest just so long and then their viability is destroyed, for seeds are never perfectly dormant or quiet. There is a gradual change in the protoplasm of the seeds, it is slowly coagulating. The reason why strange seeds seem to spring up in these excavated areas is that the soil is adapted to only a few sorts of plants; they thrive and multiply, because they do not compete with the multitude of other plants.

It is the same question as the growth of Pines, some persons believe that Pines do not like good soil because they grow out of crevices of rocks and on barren hillsides. The point is that in fertile soil the Pine is crowded out by other trees. Many of the deciduous trees, needing richer soil than these barren Pine areas, they do not get a start in the poor soil. Then again, Meadow Sorrel is associated with acid and sour fields because the Sorrel is one plant that will grow in sour soil, the others do not prefer it. The Fire weed springs up over areas of burned forests because the conditions are adapted to this one plant; gradually the conditions are altered, and other plants get a start. It is very doubtful whether these plants have started from seeds already in the soil. By various methods they are carried to these areas.

Experiments have been conducted to determine the longevity of seeds and none lasted over twenty-five years, most of our seeds are useless after ten years.

ALFRED C. HOTTES.

Growing the Cineraria.

BY ERNEST BISSON.

[*Written expressly for The Flower Grower.*]

The Cineraria is a cool greenhouse plant and is very popular with private gardeners for greenhouse and conservatory decoration. It is also grown to some extent by commercial growers and good plants can usually be seen in the Florists' windows in season.

Cineraria seed can be sown any time from May to September, I would not advise the Commercial Florist to sow before July as the plants are rather difficult to carry over during the hot summer weather. Seeds sown in July will make flowering plants by February and March. Sow the seed in well drained pans or shallow flats in light soil composed of equal parts of loam and leaf-soil with a little sand added. The soil in the pans or flats should be leveled and pressed moderately firm then well watered, after it has drained, the seed should be sown thinly and evenly over the surface, enough soil should then be sifted over the seed to just barely cover it, then press lightly with a piece of board. The pans or flats can then be covered with a pane of glass to prevent too rapid drying out.

As soon as the seedlings appear the glass should be removed and the pans or flats removed to a cool part of the greenhouse and given a light shade, as soon as the seedlings are large enough to handle they can be pricked off in flats, and later potted into three inch pots.

The soil should consist of good loam and about one-fourth of well rotted manure. The plants should never be allowed to dry out, nor should they be over watered.

They should be kept as cool as possible and shaded from the direct sun, a suitable shade can be made of cotton cloth tacked to a frame or a frame made of builders' laths spaced about one inch apart. The shade should be removed during dull weather, on all bright days the foliage of the plants can be sprayed over, also damp down between the pots.

Do not allow them to starve in small pots but repot as soon as well rooted to four or five inch pots, when potting into larger pots use a coarse unsifted soil with one-third of well rotted cow manure and add a four inch pot of bone meal to every bushel of soil. Cinerarias flower well in five or six inch pots but to get large specimen plants they should be repotted into eight or ten inch pots never allowing them to have a check of any kind. The pots should be well drained with plenty broken crocks and coarse ashes to make sure they never become waterlogged. Cinerarias are very subject to green fly and should be sprayed with an insecticide and have a regular weekly fumigation to keep them clean. Tobacco stems spread on the bench between the pots and renewed every two or three weeks helps to keep down green fly and other insect pests. Two varieties are commonly grown *Cineraria Grandiflora* and *Stellata.*

Catalogues and Price Lists.

"Rain for the Asking" is the title of the catalogue of the Skinner Irrigation Co., Troy, Ohio. It consists of 28 pages and cover and is an exceptionally comprehensive, complete and well illustrated catalogue of the Skinner Irrigation System. The illustrations especially convey information, which, in connection with the reading matter, give a very clear idea of the details of the Skinner System as installed for various purposes, This system is adaptable not only to outdoor irrigation, but to greenhouse irrigation as well.

A copy of this catalogue will be sent on request and it will prove useful for reference purposes.

H. E. Meader, Dover, N. H.,—Retail catalogue and price list of Gladioli. The Kunderd varieties are especially prominent and descriptions particularly good. A very select list of the best foreign and home originated varieties are also given. A list of five of Mr. Meader's seedlings are offered for the first time.

Carlson's Dahlia Gardens, 2526 Fourth St., Boulder, Colo.—A very complete and well classified retail catalogue and price list of Dahlias.

Lester B. Lindsley, 608-2nd Ave., West Haven, Conn.—Retail catalogue of Dahlias. The descriptions are especially good.

Orchadotte Nurseries, Franklin Brunt, Prop., West Point, Montgomery, Co., Pa.—First edition of Brunt's Garden Guide 20 pages and cover. Very complete catalogue of Herbaceous Perennials and Gladioli.

The Rose.

The Rise of the Hybrid Tea.

[*Written expressly for The Flower Grower.*]

Until the latter part of the nineteenth century the Hybrid Perpetual Roses held undisputed sway in gardens, principally because of the delightful fragrance of their blossoms and the hardiness of the plants. They had, however, a very short blooming season, limited to a few weeks in early summer, hence their popular designation, "June Roses."

To this group belong the Roses *Ulrich Brunner, Paul Neyron, Magna Charta, Duc de Rohan*, and *General Jacqueminot*, the last named once a prime favorite and more commonly known as the "*Jack*" Rose. The flowers of these varieties are of good substance, but lack the graceful formation that is characteristic of the Tea Rose.

In order to produce a race of Roses that would be practically everblooming and at the same time possess the requisite hardiness for outdoor culture, plant breeders turned their attention to the possibilities of crossing the Hybrid Perpetual Roses with the more tender Teas, which, in addition to their fragrance and fine form, had the desired everblooming habit.

One of the earliest of these crosses was the magnificent pink Rose, *La France*, introduced by the French breeder, Guillot in 1867. This variety still enjoys a certain degree of favor. During the succeeding years, the increasing number of varieties of this class, to which the general name of Hybrid Tea was applied, gradually superseded the Hybrid Perpetuals in popularity.

By the untiring efforts of Rose breeders, the list of Hybrid Tea Roses is being constantly extended and enriched. Not only in Europe, from whence have come many excellent varieties through the work of Pernet-Ducher, Leenders, Guillot, McGredy, Paul, the Dicksons and others, but in our own country as well, is this class of Roses receiving most devoted attention.

Closely associated with the work of developing new and desirable varieties of Hybrid Tea Roses in the United States, are the names of Hill, Montgomery, Dorner and Cook; the last named, the introducer of the unsurpassed *Radiance*. These men and others are rapidly making for the American-bred Hybrid Tea Rose, a "place in the sun."

H. S. TILLOTSON.

American Rose Society.

ROSE ANNUAL FOR 1920.

The Rose annual for 1920 consists of 188 pages with index. Edited by J. Horace McFarland it is necessarily well designed and well arranged and the subject matter almost beyond criticism. The frontispiece is a photograph of Dr. Walter Van Fleet, originator of many popular Roses. The book is well illustrated, many of the pictures being in color. The American Rose Society may again be congratulated on producing such a valuable addition to its already rather complete literature.

An executive committee meeting of the American Rose Society was held at the City Club, New York City, April 22nd, 1920.

The Secretary's and Treasurer's report was accepted as read.

The Secretary was instructed to send a letter of appreciation to Captain George Thomas for his assistance in making the 1920 American Rose Annual attractive by a donation of three colored plates of Roses originated by him.

It was voted that the Society should publish an annual report to its members, giving the proceedings of the Society for the year, with a list of its members, and other information covering the affiliation of local Rose Societies, rules governing amateur exhibitions, and the purposes for which the Society's medals would be awarded.

It was voted that the Secretary be authorized to inform the English and French Rose Societies that the Executive Committee of the American Rose Society have approved withholding registration of American varieties until assured that the same name has not been registered abroad.

The President appointed the following honorary Vice-Presidents for the year 1920 and 1921: E. G. Hill, Richmond, Indiana; John Cook, Baltimore, Maryland; Captain George C. Thomas, Chestnut Hill, Pennsylvania, and Charles E. F. Gersdorff, Rosslyn, Virginia.

It was voted that a new scale be adopted for judging displays of cut Roses as follows: Artistic arrangement—40, quality of bloom—40, variety—20.

The Washington Rose Show Garden Committee made a report of progress through the chairman of the committee, J. Horace McFarland. Frederick Law Olmsted has offered to produce a plan for such a Garden, providing the American Rose Society would assume the responsibility for its development. It was voted that the report be accepted, and that a project for the development of the Garden be referred back to the committee.

It was voted that the American Rose Society's Gold Medal be sent to the Portland Rose Society, to be awarded at their June meeting in compliance with the rules of the American Rose Society.

It was voted that the President be requested to send a letter of condolence to Benjamin Hammond on the death of Mrs. Hammond.

Dr. A. C. Beal, chairman of the Rose Test Garden Committee, made a report of various pilgrimages to be held during the spring of 1920. These are announced as follows: Washington, D. C., June 3rd; Hartford, Connecticut, June 24th; Ithaca, New York, June 25th; Portland, Oregon, June 25th, and Minneapolis, Minnesota, July 3rd.

It was voted that the Society should hold a general meeting at Washington at the time of the Garden Exhibition. It was voted that the President should present the Hubbard Gold Medal to E. G. Hill at the June meeting in Washington, D. C.

A letter was read from Secretary Young stating that there would be a meeting of the International Flower Show Committee held in Cleveland during the month of June, at which time all questions regarding the conduct of the next International Flower Show will be discussed and decided upon. President Pyle stated that he expected at the meeting to represent the American Rose Society.

The Secretary reported the total expenses on the Society in connection with maintaining a booth in the International Flower Show, March 15th to March 21st, 1920, to be $151.25, and that 420 members availed themselves of free entrance to the Show, at an expense to the Society of $168 00

The Secretary made the following membership report of the Society on April 21st:

Regular members	1,520
Life members	68
Affiliated members	430
Honorary members	10
Total	2,028

Signed

E. A. WHITE, Sec'y.

Maintaining Soil Fertility by the Use of Cover Crops.

Profitable production depends largely on an ample supply of organic matter and nitrogen in the soil. Because of the increasing scarcity and high price of stable manure, and high-grade fertilizers, some other sources of nitrogen and organic matter must be provided if maximum production is to be continued economically.

Both nitrogen and organic matter can be secured cheaply by growing legume cover crops.

A good cover crop plowed under will provide as much (or more) organic matter in the roots and tops, per acre, as 8 tons of manure.

A good legume cover crop may take from the air and put into the soil as much nitrogen per acre as is contained in 8 tons of manure or 500 pounds of nitrate of soda. Although not as quick-acting as nitrate, most of the nitrogen in a cover crop will eventually become available.

On light soils cover crops, even non-legumes, will prevent the loss through leaching, blowing and washing of many dollars' worth of soluble plant-food.

Maximum production can be maintained without manure and with fertilizers containing comparativly little nitrogen (and therefore less expensive), if legume-cover crops are systematically grown, as suggested in the following outline.

Sweet clover and alfalfa are excellent cover crops and start to grow early in the spring, but should not be sown unless the soil has been well limed. If the land is too sour for red clover, alsike may succeed. Clover failures are often due to lack of lime.

The heavier the seeding the better will be the stand, but good live seed, timely sowing, a moist soil and careful covering give good stands with moderate amounts of seed.

Drills save seed through better and more even covering. Where a drill is used the amount of seed recommended may be reduced one-quarter.

Legume seeds should be sown as early as possible to secure maximum fall growth and consequent resistance to winter killing, but it is better to wait until after a good rain than to sow on very dry ground.

Use nitrogen in fertilizers primarily as a stimulant to crops, depending on legumes and stable manure, if available, for the main nitrogen supply.

Acid phosphate is still comparatively cheap and abundant. Use it freely.—*N. J. State Agric. College.*

United States Civil Service Commission announce a competitive examination for the position of plant breeder at Blissfield, Michigan, at $2000 to $2400 a year. Address as above, Washington, D. C. In these days of high wages the salary mentioned probably will not look very tempting to those possessing the necessary qualifications.

Odds and Ends From the Garden.

Yellow in the garden, such a glare of color on a sultry day as the bees hum lazily about the flower heads, such a Golden Glow in every yard in August and yet what more cheerful than the first yellow Crocuses that appear in a warm nook in early spring. Somehow if a flower is yellow I expect that it will thrive with little care and over-run my garden, but who does not treasure a yellow Peony, a golden Rose or creamy Gladiolus?

Even as I write the greenish yellow Winter Aconite (*Eranthis hyemalis*) has faded and only in shaded spots do I find lingering clumps of Crocuses, susianus with its bronzed reflex or Largest Yellow true to its name. *Anenome Ranunculoides*, yellow but otherwise like our charming wild wood Anemones, is a nice warm tone and *Doronicum caucasicum* like a single Dandelion flower with its heart-shaped shining leaves is also, but I confess a dislike to the greenish tinge in the little *Draba aizoides*, the bigger *Alyssum saxatile* in its varieties, and the wild Mustard, all Cruciferae. The Forsythias in some forms have this same tinge, but their gracefully sweeping branches and mass of color counteract my dislike and *Kerria japonica* particularly the single one makes a delightful small shrub for an informal planting.

In the rock garden are the little Angels Tears, *Narcissus cyclamineus* and the miniature trumpets *N. bulbocodium*, while in the border are the first Jonquils, clumsy forerunners of their later brethren. *Glory of Leiden* among the big trumpets is my favorite, but I prefer the paler shallow cupped forms, *Sir Watkin, Seagull, Lucifer*, or even the ordinary *conspicuus*. Yellow Irises carry on the scheme. I throw out the olive shades which one finds in the much over-vaunted *Pfauenauge*. The buds on the yellow Peonies are showing and I am looking forward to my first blooms on *Wittmanniana*, and its hybrids *La Printemps* and *Mai Fleuri* on the creamy *macrophylla* and *Mlokowiewiczii*, (What a name!) all of which I was forehanded enough to import before Quarantine 37 barred the way. Though yellow has been the aim of many Peony breeders who knows but even I may be the one to win success with beginner's luck. Think of it, dream of a magnificent creamy yellow Peony as fine as *Jubilee*, *Lady Alexandra Duff* or the new American seedling *Mrs. Edward Harding*.

There! I shall be involved in the fascination of hybridization before I know it and I have hardly mentioned one plant to uphold my theory that yellows are easy growers. With June come the Yellow Lilies. Would you believe it? I have twenty-five named varieties of Hemerocallis, and though I confess I cannot yet tell them all apart, few things are more enduring of shade and neglect. There is the old Lemon Lily (*flava*) and the tawny orange (*fulva*) which we find existent by many a big Lilac clump, the only symbols, save a half-filled cellar hole, of an old-time homestead, *H. Middendorfii* is charming, while *luteola pallida* and *Thunbergii* may be combined with Larkspurs and Madonna Lilies so late are they to bloom. And that reminds me, *Lilium croceum* is also delightful with the Delphiniums and not at all difficult.

But now I am months ahead! In the spring garden there are some fine yellows for incidental use, potentillas, strong growing Buttercups and the vivid orange Globe Flowers (*Troillius*). I dare not venture into the Tulip realm, the dwarf starry *dasystemon*, the yellow Duc van Thol and the small but much branched *Turkestanica* are already in bloom with a host to follow. The soft yellow *Anthemis tinctoria Kelwayi* though poor in comparison with the big Marguerites is a most harmonizing composite. There are dingy Foxgloves, most intriguing things because I am sure they would be effective if I could only place them properly, and soon after come the first of the *Heleniums* the orange-hued *Hoopesii* which unfortunately is not as rapid a propagator as the familiar *autumnale* varieties. These I thoroughly enjoy, one can depend upon them both to keep their place and give good bloom, the varieties with terra-cotta markings blend in well with Hardy Asters, there is a wonderful autumn effect in no time.

Did you ever realize that in England these last, which they call Michaelmas Daisies, are replanted each year and that a single growth will, in good ground, give a mound of blossoms this very fall? Let us go back to July, there is a pale yellow *Delphinium Zalil* a good companion to the *chinense* varieties. Sun-flowers and *Heliopsis* are all yellow, almost too rampart, there are low shrubby *Helianthemums* not over hardy, but such flower-full growers that I can never resist trying them, there are rather similar biennial *Potentilla* hybrids, both single and double and sometimes with terra cotta markings, but never in my experience anything but second rate. There are Evening Primroses in soft tones, big wooly leaved *Verbascums*, common Mullein hybrids, Chrysanthemums, Poppies, Roses, *Silphiums* and *Senecios*, an endless list, but I am running out of space, not subject matter, and I do want a word on how, and when, and where, I like my yellows.

Though a strong yellow goes a long way in my garden, the soft, clear, pale yellows are indispensable. I know nothing more antagonizing than masses of brilliant color down by the shore with arid wastes of sand and not a bit of shade, nothing more delightful than a sudden glimpse of glowing tones as we walk along a shaded walk. It is not that I want to visit such a garden even then, but the very contrast of cool shade and warmth and flickering sunlight gives one a pleasant feeling of thankfulness. How often our mood, our contentment, is due to the contrast of what is just past, or just ahead. It is thus that I enjoy such a garden in the enervating days of summer.

In planning color combinations I always think back to Miss Jekyl's "Colour in the Garden." Who of us has not tried out at least one of her suggestions, but often our path is beset with difficulties, there is sometimes a difference in time of bloom, sometimes plants prove hard to grow and always there seems to be a lack of patience in handling. We Americans have few of us developed such a wonderful care for details in the placing and the training of our garden material.

Once in a while I happen upon a small success. That *Oenothera var. Youngii* and crude magentas looked well in a shady border was a distinct discovery, equally contrastive are yellow Lilies and claret Irises, or yellow and purple Crocuses but far more enduring is the pleasure I derive from using pale yellows, perhaps *Tulip vitellina* that fades to cream or the exquisite Moonlight with the pale gray-blue of *Veronica gentianoides* and a bit of the blood-red tulip *King Harold*. Yellow with lavenders, terra cottas or dull reds, sometimes with rich purples such as *Aster Novae Angliae* are very possible but beware of anything except a pale yellow with pinks for in strength is discord. Immediately you will say, "What about Roses?" Ah! there is a harmony of smooth texture, often a blended gradation of tints and I defy you to name a Rose that has the crude yellow of a sunflower.

I wonder if you know Dr. Ross' "Theory of Pure Design," one of the dryest things to read I know and yet it gives the great underlying principles of harmony and contrast, and of the two the first in color at least, is by far the safest for garden use. Harmony need not be monotony, I have not much sympathy for uni-coloured schemes but in your garden combinations let neighboring plants possess some qualities in common. Take a lesson from nature, how few Peonies, Irises, Roses, Delphiniums or Asters do not look well each with its kind. It is not wise to try salmon and magenta Phlox but in plants, at least, relationship is often a safe guide.

"Odds and Ends" surely a proper title for such a haphazard jumble of notes.

R. S. Barre.

The Garden O'er the Way.

By J. H. Brayman.

My neighbor, in a garden o'er the way, loves flowers,
And morn and noon and evening time each day
She's bending over little bowers,
Where grow, nursed by her tender care,
Are flow'rs my mother loved; and far away
Across the desert years there comes a face,
Not beautiful, perhaps, yet with the grace
God gives to those who love and tend His flowers.

She strewed them by the wayside of the living;
She waited not the "narrow home" and bier;
Her joy was ever to be giving
Her treasures to the loved ones who are here.
And children's happy faces oft would greet her,
As smiling, on their homeward way from school,
Big hazel eyes would speak as they would meet her,
And flowers would pledge the reign of love's sweet rule.

Though my neighbor, in her garden o'er the wayside,
May never know how often I may dream
Of those bent hands, long resting from their labors,
I look beyond her flowers, and I seem
To look across the years, and woods, and meadows;
Beyond a life, across a river wide;
And bending,—like my neighbor,—o'er the flowers,
A mother's form, upon the other side
I seem to see, and seeing, say,
"I'm glad they have their gardens o'er the way."

Queries and Answers Department.

"All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication."

List of Early Peonies.

To the Editor :—

Can you or some of your readers recommend varieties of good Peonies, and the earliest to bloom in white, pink, and rich red? H. C. S.

Answer:—In the lower priced Peonies would advise the following for their earliness and freedom of bloom, being varieties that are dependable every season:

White :

Festiva Maxima. Very large early white, flecked crimson, one of the oldest varieties, but as yet unsurpassed in every way.

Duchess de Nemours. Cup shaped bloom, wonderfully pretty in the bud, not large, but very sweet sulphur white flower.

Madame Crousse and *Mons. Dupont* are early midseason whites that might be classed as early Peonies. Both are fine varieties.

Light Pink :

Octavie Demay, Asa Gray, Eugenie Verdier. Fine early varieties.

La Perle and *Venus,* are two midseason varieties of great merit.

Deep Pink :

Edulis Superba, very fragrant and a profuse bloomer. *Mons. Jules Elie,* glossy pink flower of perfect form, large and grand in every way. *Beaute de Villecante, Alexandriana.*

Livingstone, is not an early Peony but too valuable to be overlooked.

Rich Red :

Richard Carvel, very early red of wonderful form and color. *Felix Crousse,* most popular brilliant red, free bloomer. *Messonier,* purple amaranth, called the American Beauty red. *Madame Bucquet.* Deep crimson amaranth, fragrant, *Karl Rosenfeld,* very large, deep brilliant crimson. Two fine midseason reds.

Would also advise "H. C. S." to read over some of the excellent articles on the Peony that have appeared in recent issues of The Flower Grower, especially January 1920 and August 1919. H. G. R.

Childsi Gladioli.

To the Editor :

Why is it we hear no more of these? At one time I exchanged other plants for the entire list of Childsi. I found them by far the brightest colors and largest blooms I have ever seen; have had them with three spikes on one stem, and four or more feet high. With sickness in the home, they were overlooked at planting time, and all were lost, and I have never seen any others, and do not see them listed.

SARAH A. PLEAS.

Answer:—The foundation or the original stock of the Childsi type of Gladioli came from Europe about 30 years ago, being imported by the old firm of V. H. Hallock & Son, Queens, L. I.

About 26 years ago Mr. John Lewis Childs bought out the stock, since which time hundreds and thousands of seedlings have been produced, and many of them named, and I think still compare favorably with many of modern or present day seedlings; and the fact that some of them are among the standard varieties in commerce, is proof of their superior quality. Some of them are *Columbia, Mrs. Beecher, Nezinscott, Prince of India, Scribe, Wm. Falconer, Wild Rose,* etc.

From all indications it seems to me that many seedlings being produced today by various growers have a good proportion of what we might call "Original Childsi Blood" in them. The type is noted for extra large wide open flowers.

I. S. Hendrickson.

Sowing Gladiolus Cormels.

To the Editor :—

In The Flower Grower for February on page 22, Henry Madtes under "Growing Cormels," says:

"Sow thickly and evenly in a well cultivated flat bottomed trench ten inches wide and three inches deep."

What is meant by "thickly?" Should one sow them about one to the square inch or so they will nearly touch? My space is limited and I want to plant 7000 or 8000 cormels. Would they do as well if the trench was twenty or twenty-four inches wide, or in other words, planted in a narrow bed? A. F. A.

Answer:—Cormels should be sown so that they cover the bottom of a flat bottom trench. This is what is meant by sowing thickly. You will find that 7000 or 8000 cormels will not occupy very much space and we would be inclined to advise against planting in a row wider than 5 or 6 inches. 3 or 4 inches is the common practice.

Dis-budding Gladioli.

To the Editor :—

If planting stock is not allowed to bloom should the blossom stem be broken off as soon as it appears or should it be allowed to grow a while? A. F. A.

Answer:—My personal opinion is that it makes little difference in dis-budding whether the bloom is broken off as soon as it appears or whether it is allowed to mature to the extent of opening one flower. The main loss to the bulb is when the flower matures on the stalk and begins to form seeds. However, if the bloom is not wanted I would recommend dis-budding as soon as the buds appear.

Madison Cooper.

Renovating Old Potting Soil.

To the Editor :—

How can a small florist, with a limited amount of land, renew his potting soil from year to year? Some soil is purchased each year, but he wants to renew old, spent soil by spreading on a lot and growing some legume crop. How should he do this to best advantage? E. M.

Answer:—How can a small florist renew his potting soil—or rather the life of the soil, so that it can be used a second, and possibly a third and fourth time without the expense of purchasing new soil, is quite a question. We have never given this matter serious thought, as we have plenty of soil to allow all old, partially exhausted soil plenty of time to recuperate, by simply placing it where it will be used for a few years to produce general farm crops. It has often appeared to me that probably as good crops could be grown several seasons in succession where the soil has not been renewed as where it is renewed for every crop. Last Spring I was in a Rose house that had one of the finest crops of Roses coming on for Easter that I have ever seen. The plants were in the same soil for 14 years. This grower has probably taken more prizes at flower shows in the last ten years than any other grower in the Philadelphia district.

All commercial Roses at present are allowed to remain in the same soil, without any renewal, either of soil or stock, for from four to seven years, and we never hear of soil exhaustion. I have read of wonderful crops of Carnations being grown in the same soil for five or six years in succession. We grow Carnations—a little better than some that I have seen, though not nearly as good as a lot of others that I have looked over. We have experimented with soil that was in the houses a number of years, and new soil taken in the house especially for the crop, with the result that experts, later in the season could not determine which was the old or the new. It is generally conceded that there is less danger of loss to the crop when the soil is renewed.

We have been growing Sweet Peas in the same soil for five or six years, and do not see any necessity for renewing it for some time to come. If proper care is taken to have the fertilizers complete and plenty of humus is added, with sufficient lime to correct acidity, there should be no trouble in using the same soil several years in succession, even on a bench. If fertilizer that is not complete is used continuously, trouble will be encountered eventually. Some florists use nothing but tankage, while others use nothing but bone meal. This practice will soon create a great deficiency of potash. Soil that is apparently worn out could be greatly benefited by spreading about the depth of an ordinary plow furrow, and if in the Spring get a good heavy crop of Canada field peas and oats started as early as possible. Plow this crop under the end of May and seed to Soy beans. The end of August plow the beans, apply a ton of lime to the acre, or more if the soil is rather acid, and seed to rye and Hairy or Winter vetch. Your plot will likely be small and the expense of seed will not be very much even if you were to use double the quantity the farmer would use on the same area. Try to get a good stand each time you sow a crop, especially the vetch and rye. This soil should be in good shape to use the following season, unless it is very badly exhausted, in which case give it the same treatment the following season.

Where so much humus is incorporated in the soil quite a lot of lime will be needed to overcome the acidity this decaying vegetable matter will develop. A mixture of raw bone and potash would be beneficial before the soil is used, though not in very large quantities. Better apply such concentrated fertilizer soon as the plants start growth, and stir the soil slightly before watering.—Elmer J. Weaver in *Rural New Yorker.*

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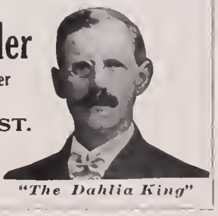

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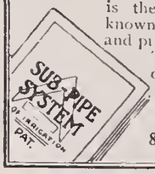

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THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

Vol. VII
Number 7

July
1920

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
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Suggestions for Planting Home Grounds.

[*Written expressly for The Flower Grower.*]

By Bertha Berbert-Hammond.

> Go, make thy garden as fair as thou canst
> Thou workest not alone;
> Perchance he whose is next to thine
> Will see it, and mend his own.
> —*Colliger.*

As one result of the widespread movements for outdoor improvement that have swept the country, awakening the latent civic pride of individuals and in many cases, of entire communities, considerable progress has been made toward making our country more beautiful.

The neglected grounds of many school houses and public play grounds have been beautified, waste places reclaimed, vacant lots redeemed, back yards tidied and the home grounds generally made more attractive and livable.

As landscape gardening is an art not widely understood or appreciated, it is not at all surprising that mistakes have been made in some of these attempts to beautify. But if these efforts have been instrumental in removing the untidy, tell-tale signs from heretofore neglected, slovenly places, making the premises more pleasing and orderly in appearance, they have surely not been in vain.

It is much easier to criticise than to rectify, but a few simple suggestions as to what constitutes artistic planting, may be of some assistance in correcting, or at least modifying, the poor effects of the most flagrant errors. Haphazard planting and crowding, cause most of the troubles. To set out quantities of trees, shrubs, plants at random without a well defined decorative idea in mind, is bound to produce a "crazy quilt" effect that is confusing and disquieting.

GLADIOLUS—*CIRCE.*

One of A. E. Kunderd's 1916 introductions. A very early, deep, dark red variety, slightly tinted wine. Large blooms, five to six open at a time and uniformly placed on spike. Mr. Kunderd speaks of *Circe* as being one of his best dark varieties.

As an artist first makes a study or sketch of a painting he desires to create, so the amateur landscape gardener should study carefully the possibilities of the area to be beautified, and compose a planting scheme that will be harmonious. In this working plan, aim to secure as large and unbroken a vista of velvety lawn as is possible as this gives a restful effect of spaciousness. Effectively grouped shrubs and plants may be used to round out angles, screen off undesirable objects and to form a kind of frame along the boundaries or division walls or fences. They should never, for good effect, be dotted promiscuously on the lawn proper, as such a method tends to dwarf or decrease the apparent size of the plot.

Plants graduated as to height—the tallest in the back ground—planted along the foundation of buildings soften the harsh outlines and serve as a sort of connecting link in the correlation of buildings and grounds. Stiff, formal lines in the border may be avoided by skilfully massing appropriate varieties, so that the groups dovetail in an irregular fashion. Trees, if used at all, on places of limited areas, are usually better in the background. Those that attain a large size are decidedly out of place in a planting scheme for small yards.

Even the diminutive city yard has its planting possibilities. If the small patch is well sodded or sown with a high grade of lawn mixture, the resulting green sward, bordered with flowering plants and graceful vines trained to drape and screen the fence of the enclosure, will form an oasis that will prove pleasing to the eye, restful to the nerves and a fitting recompense for all the effort put forth and for the faith implied.

As Bulwer-Lytton has expressed it in the following lines:

> Whoever plants a seed beneath the sod,
> And waits to see it push away the clod
> Trusts in God.

THE DAHLIA

Disbudding and Forcing for Exhibition.

By J. K. Alexander.

[*Written expressly for The Flower Grower.*]

Many amateurs desire the largest and finest quality Dahlia blossoms obtainable, so the following may prove of value to both amateurs and professionals.

To obtain the largest and most perfect flowers, only the best and largest buds should be allowed to mature; the others should be removed, enabling the full strength to develop the most promising buds into exhibition blooms.

Some varieties of Dahlias require thinning and disbudding, to produce the best flowers. Varieties having an excessive amount of foliage and small growth should have a considerable part of their branches removed, while those having more buds than can be properly developed or matured should be disbudded. The operation in no way endangers the plants and anyone can do it. Thin and disbud if necessary, moderately or severely as conditions seem to require.

Taking a budded stalk or branch, you will find the large or first bud on the stalk, and also, that at each leaf all the way down the stalk, new shoots or bud stalks form; these in turn produce buds and flowering stalks, which overtop the first bud. The first bud on every stalk is always the largest and produces the largest and best flower, ordinarily. Before the first flower is in full blossom, the first two side shoots have formed buds and burst into flowers. These in turn become passé, to be replaced by flowering stalks from the set next below, or the second pair of side shoots.

On most varieties the first flower has a short stem, and we disbud to lengthen the stem and to secure larger flowers. The proper way to disbud is when the first bud is small, the first pair of side shoots should be removed with a sharp knife. This forces all the plant life that ordinarily would have developed the first two side shoots, into the first bud, making the first flower much larger and giving it a better stem. Removing the first set of buds forces ahead the second set and they in turn burst into flower. As you cut and remove the flowers, your plants send forth new flowering stalks from the bottom of the plant; the more you cut the more flowers will grow.

Disbudding is more generally used for flowers for exhibition purposes. When wishing the largest flower possible, for exhibition purposes, you can disbud every side shoot down the entire length of the stalk, forcing all the plant life that would have developed all its flowers, into one flower, thus growing one flower of gigantic size; or, a portion of the side shoots can be removed. This disbudding in addition to forcing insures you much greater success at exhibitions. In forcing Dahlias to secure the very best results, apply either fertilizer or manure, or both, broadcast or in liquid form, at each or every other hoeing, which with disbudding, will give you the best results obtainable. Nitrate of Soda proves a very effective fertilizer for forcing, but should not be used in too large quantities. Apply in liquid or crystal form when plants are in bud, making application often, and not using too much at a time. Nitrate of Soda is powerful and if too much is used it will burn your plants or force them to such an overgrowth that the roots will decay during the winter. The Nitrate of Soda crystals are best applied if a small ring is made around the plant, and these placed in the ring that keeps them from washing away, so the plant will receive the entire benefit. If in liquid form, using one tablespoonful of Nitrate of Soda to a gallon of water, applying with sprayer or watering can. Anyone can grow Dahlias of exhibition quality if they will digest these remarks, study plant requirements, and act accordingly.

Useful Dahlias.

The Dahlia is one of the most beautiful and satisfactory of the fall flowers and there are so many different varieties, one may choose the kind which appeals to their individual taste.

The Peony flowered (some call them Art Dahlias) are large and have usually two or more rows of petals, with a large yellow center. Among the best are *Queen Wilhelmina*, pure white, very fine. *Geisha*, scarlet and gold, a gorgeous thing, and very popular. *Sherlock Holmes*, a beautiful shade of mauve.

The Cactus Dahlias with their finely cut florets are some of them straight and some very much incurved. *Snowstorm* is a lovely pure white. *Marguerite Bouchon* is one of the finest, color a deep pink with white center. *T. G. Baker*, a good yellow.

The decorative Dahlias are the largest of all with broad petals and a very full flower. *Hortilanus Fiet* is a very beautiful shade of salmon. *Le Grand Manitou* is white, striped and splashed with violet purple. *Delice*, a lovely rose pink, fine for cutting.

The show Dahlias are the old-fashioned kind, a round full ball, and some are very large and beautiful. *American Beauty, Crimson, Dreers White, W. W. Rawson*, delicate lavender, and many others.

Mrs. H. M. Walker.

How to Keep Cut Flowers Fresh.

In the issue of Nov. 15, an article entitled, "How About It, Florists?" contains this statement of an eastern agricultural college: "It is claimed that cut flowers placed in water slightly colored with laundry bluing will last longer than if placed in clear water."

The following notes upon the keeping of cut flowers, compiled from official and graduate work carried on at Cornell University, may prove of interest in this connection:

1. The factors concerned with long keeping of freshly cut flowers are, proper temperature, humidity, light and ventilation. The temperature should be from 35 deg. to 45 deg. F., cool crops doing better at the lower temperature. A high humidity (85 per cent) should be maintained by sprinkling the floor of the storage room; this will also help to reduce the temperature, since evaporation is a cooling process. (The notable exception to this treatment is Sweet Peas which are injured by a damp atmosphere.) Light should be reduced to a minimum. A constant and uniform circulation of air should be provided for, to prevent the rotting of the flowers.

2. The average of the results of over a thousand experiments made in this country and in France indicate that Carnations will keep best in a 10 to 15 per cent, 'Mums in a 15 per cent, Orchids in a 10 to 20 per cent, and Roses in a 7 to 10 per cent sugar solution. Prof. Knudson found that soluble mineral salts in the water greatly retarded (or prevented) the fouling of the water, by their inhibiting effect upon the growth of bacteria. This treatment may prove advantageous where the water in the vases cannot be frequently changed. I believe that the laundry bluing (usually a ferrocyanide) mentioned in the Nov. 15th article, would act in a way similar to any other salt in preventing the development of bacteria in the water. There is little doubt, however, but that the daily changing of the water in which flowers are placed is the most efficient and most economical method in the long run.

3. Most flowers should be *cut*, not broken, straight across the stem, in the early morning when the water content is highest. Of course, Roses and other flowers whose buds open quickly, must be cut twice a day. The longer the stem, the better, since there is more tissue for water storage, and more surface which can absorb water, providing the vases are deep and well filled with water.

4. A heavy application of fertilizers to the plants, prior to cutting, will sometimes send the flowers "to sleep," and may affect their keeping qualities. Heavy fumigations act in a similar way.

5. Clipping the stems *under water* every day caused flowers to last for 11 days. as against 9 days when clipped out of water.

There are many other pointers, such as charring the stems of Poinsettias, etc., which every florist knows. A great deal depends upon the kind of flower and how it was grown. In general, the problem consists in arresting development, *not* in feeding the blooms. Flowers and fruits, when cut from the plant, tend to oxidize their carbon to carbon dioxide gas, hence any method which tends to prevent this will tend to increase the keeping. For the florist with a store window, the aim should be to maintain cool, moist and airy conditions, to protect the flowers from intense light, and to use deep vases well filled with pure water, which is changed daily.

Drue Allman, B. S.
Assistant in Horticulture, Cornell University.
—(In *Florists' Exchange*.)

Weather conditions have been quite variable this year. Parts of the East have suffered the most severe drought on record but soaking rains have recently occurred. Most sections, however, have had seasonable rainfall.

THE GLADIOLUS

Digging Gladiolus Bulbs.

By Geo. S. Woodruff.

[*Written expressly for The Flower Grower.*]

I have been asked to tell how best to dig Gladiolus bulbs. Something depends on the size of the bulbs planted and something on whether they are high-priced varieties which must have all cormels ("bulblets") carefully saved. Bulblet-grown stock should be dug, if possible, while the tops are still strong and green. Make a sieve of narrow boards and a bottom of "galvanized" wire cloth about $\frac{1}{8}$ inch mesh. Loosen the soil with a garden fork by driving the fork, held perpendicular, a little lower than the bulbs and then throwing the hand down. Then grasp a bunch of the tops and pull up and hold over the sieve and break off the bulbs with the other hand, or rather strip them off. Some may have grown so large that you will have to snap them off with a quick motion. From time to time shake the sieve so as to get rid of most of the soil and empty it into a box or bag. Go through the whole row with the fork before pulling, so as to have both hands for the pulling and breaking off.

If the tops are dead or small they may be taken off before digging by using a sharp hoe or spade and removing the soil as deep as you dare without cutting the bulbs. Then loosen as before, very close to the little bulbs, on one side with the fork and the other with a sharp spade, making a V shaped trough. It will be quite easy then to scoop out bulbs, soil and all and drop into the sieve. A tool on the principle of the "Gilson Weeder" could be made to draw under the ground, making a U shaped cut under and on both sides of the row. Mr. G. D. Black contrived a bulblet digger by taking a two-wheel hand cultivator frame and making a U shaped band of steel to cut under and around the bulblets, while a knife above cuts off the tops. Then with a narrow scoop the soil and bulblets together are scooped out and put into the sieve. This works well in sandy loam at least.

In digging large bulbs of odd lots the fork is used as before said, one person going ahead to do nothing but loosen. The others follow and pull up. But this is too slow and expensive on a large scale. To take the place of the fork a digger is made by removing the mold board from a one-horse wooden beam plow and shifting the handles so that the "land side" points a little to the right. A blacksmith can do this by taking off the plow and twisting the shank. The point of the plow should have a good "suck" and a depth gauge is made by bolting loosely to the forward part of the beam a piece of old wagon tire, running down and back in sled runner fashion past the plow on the land side. An upright piece is welded to this with holes at proper intervals to regulate the depth with a bolt passing through the beam. It takes a little management to get this to work just right but it is an immense labor and time saver. It may be found necessary to extend "the lay" a little so as to take it under the row far enough. Doubtless a better thing can be made from the new by attaching to a plow beam a stout band of steel to go straight down and then bend so as to cut under the row. This, too, would need a wheel or some other depth regulator which could be regulated by experiment.

The horse walks, of course, on the left or "land" side of the row. If the rows were far enough apart a two-horse tree digger would be just the thing. The object sought is to loosen and slightly lift the bulbs without turning them under at all. The digger is followed by men, boys or women (whatever you can get!) who pull up all they can grasp and break off into baskets at once. Do not wait until tops are wilted and tough.

In 1917 Mr. Black wrote me under date of Oct. 25th "I have been delayed by the scarcity of help and the weather. I am using the lifter plow and today we were stopped by the rain and snow at four o'clock but we dug 46 bags (30 rows 35 rods long) myself and man and four women." That was going some. (Lucky to have Scandinavian women who are not afraid to work.)

I do not know how the very large growers work it and would like to hear.

In using a lifting plow one needs a steady horse which will not rush and fret.

Digging Bulblet Grown Gladioli.

[*Written expressly for The Flower Grower.*]

Cormels should be planted as early as possible and in consequence will be the first part of the crop to show signs of ripening, but this varies greatly in different varieties; *Peace* very seldom ripening until chilled and checked by frost, while *Pendleton* will be ready to dig about the middle of August.

We never wait for the foliage to become brown and dead for at that stage the small bulbs separate very easily from the stem and the labor of digging is doubled.

As soon as brown stems become at all noticeable in the cormel rows of the early sorts we start digging. I do not know of any machine that can be used in this process. We use a spading fork with four flat tines to loosen the row on one side, and sometimes it is necessary to go on both sides. Then the workman gathers a little of the foliage in one hand, shoves the other hand into the soil back of the little bulbs and by gently pulling and lifting brings the bulbs to the surface and places them in a box, tops all one way. Now pull the soil back to find any loose bulbs which have broken from the stems and then repeat the process.

The work of stripping the bulbs from the stems can be done at any convenient time within three or four days, under the shade of a tree on a hot afternoon or in the bulb house during a storm.

A fine sieve is used to remove all the soil and then the bulbs are spread in shallow boxes to dry.

All my sieves are made square and of the right size to slide on the top of any of the bulb boxes, and I find this a very convenient arrangement.

By the time the small stock is dug the early plots of blooming bulbs will be ripening, and with these the process is very similar. If not allowed to stay too long in the ground nearly all bulbs will come up with the stalks, the few which break off are dug out and then the question of how much time to spend hunting for stray bulblets depends on the value of that particular variety.

Most of the smaller sized bulbs are broken off with the hands and the ones that are too large or too tough are cut off with sharp pruning shears.

On large fields planted with cheap varieties it may be practical to use some labor saving machine like a potato digger, but when the plots are small and the stock valuable the old method, slow and tedious as it surely is, would seem to be more economical.

S. E. Spencer.

Love Tragedy in a Gladiolus Garden.

A love tragedy, sad, strange and unique in character, was enacted in a Toronto garden; the actors in which were two of nature's most beautiful children—a Humming bird and a Gladiolus flower.

The tall, slender stem of the plant, with its upright shoots, surmounted by a chalice-like pink and crimson tinted flower, was swaying coyly in the morning sunlight, throwing kisses to the world about it, when along came a tiny, fairy-like creature, humming with infinite happiness and love for all beautiful things. Desiring to share in the kisses the little lover thrust itself into the heart of the flower, and, having, drunk its fill of the nectar, was withdrawing itself when its head was caught between one of the sword-like shoots and the stem of the plant. Struggling to free itself the wee bird slipped downward and its neck became more and more tightly fixed between the sword and the stem and was choked.

No one witnessed the tragedy, but Mr. Gilchrist of Runnymede road, in whose garden it occurred, found the little lover hanging limp by the neck as if the flower had clasped her fairy wooer to her bosom and hugged him to death.

Mr. Gilchrist is one of the most notable growers of Gladioli on this side of the Atlantic. When at work on his "flower farm" at Lambton he sees many Humming birds, and the little visitors frequently suck nectar from the Gladioli in his arms after they are cut, but never before has he seen an incident such as that of yesterday.—*Toronto Globe.*

American Gladiolus Society.

The Boston meeting and exhibit promises to be one of the greatest in our history.

If you have not already sent in a prize offer for the schedule will you not do so at once?

As a matter of mutual benefit your firm should be represented on the list.

H. E. Meader, Pres't.

The Flower Grower
PUBLISHED MONTHLY ON THE FIRST OF THE MONTH BY
MADISON COOPER, CALCIUM, N.Y.
FOR BOTH AMATEUR AND PROFESSIONAL FLOWER GROWERS

Subscription Price: $1.00 per year, 3 years for $2.50.

OUR MOTTO: Special favors to none, and a square deal to all.

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Growers are invited to contribute articles or notes over their own signatures, but the Editor reserves the right to reject anything which in his judgment is not conducive to the general welfare of the business.

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Vol. VII July, 1920 No. 7

> "*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

Are We on the Road to Decay?

More than 150 years ago the great poet Oliver Goldsmith wrote:

"Ill fares the land, to hastening ills the prey
Where wealth accumulates and men decay."

No one will doubt the statement that wealth has been and is accumulating in America at the present time, but many will controvert the statement that this country is necessarily heading for decay. History, however, proves that the accumulation of wealth almost necessarily leads to demoralization and disintegration. Will the United States of America repeat history?

We are firmly convinced that unless some important corrective influence is set at work, the history of the decay of the American nation may soon be written. We are not well prepared to point out what this influence should be, or possibly can be; but men are decaying under present influences, there is no doubt about that.

When we were thirty years younger, it was our youthful thought that at some future time those who performed the real hard and disagreeable manual labor would be the highest paid, and that this would be a just reward. Now that exactly this condition has been brought about by things which could not have been foreseen, it does not seem to follow that labor is really getting its just reward, or that it brings about a solution of the wrongs of all the people. In fact, conditions are such that they are intolerable, and as stated, some influence must be set at work to correct the present unhealthy situation.

One thing that can be done is to provide right education for the young. The young must be taught that all productive labor is a duty and a privilege and not a hardship or a disgrace, and that their health and happiness depend on it. When all able-bodied people become conscientious producers, the wants of all will then be supplied.

Production is at a very low ebb in this country and indeed in the world. Hunger stares many millions of people in the face. In this country wrong education is the main cause of it. People in general are so wrongly educated that they feel above manual labor. They should be taught the honor and dignity of labor. We might further suggest that all persons physically fitted should be compelled to produce, but correct education would bring this about without compulsion.

MADISON COOPER.

Why not a List of Gladioli for Rating?

I have recently seen a more or less complete set of the Bulletins issued by the American Peony Society. This Society has had the advantage of a very energetic and enthusiastic Secretary during the last eight years, and the Society and Secretary are both to be congratulated on the amount of good work done. With the Bulletins was a list of "Peonies for Rating." This list contains the names of no less than 1060 (one thousand and sixty) varieties. It states "the purpose for which this list is issued is to make some progress towards the elimination of the poorer varieties from commercial lists, and at the same time to accord the best sorts a more general and positive recognition."

Is it not time that something of the kind was taken in hand for the Gladiolus? In your issue for May the Secretary of the American Iris Society states "On the basis of the Check List containing over 2300 names, we are starting a Registration of Names of new varieties. **** This form of registration is merely to avoid duplication and confusion." DUPLICATION has already begun among Gladioli, for I have noticed in the lists which have reached me this season that *Loveliness, Scarletta* and *Cannaribird* do not always mean the same flowers. CONFUSION must follow sooner or later. It will take a great deal of watchfulness to prevent at lifting time the large variety *Loveliness* becoming mixed with the Primulinus variety of the same name.

The compilation of the list will be no sinecure, but it seems that the time has arrived when a start should be made, if only to show that what has been possible for the Peony and Iris Societies to do is also within the capacity of those interested in the Gladiolus.

SMILAX.

Increase the Home Garden.

While THE FLOWER GROWER is devoted to flower growing, we do not hesitate on occasion to mention other things which are likely to prove beneficial and useful to our readers. All reports indicate that there will be a great shortage of food products resulting from lessened planting this spring and we wish to draw attention to the home garden as a relief. Wherever possible gardeners should plant any food crop which will mature before winter, and which they have space for. It is a little late it is true, to give this advice, but the actual shortage was unknown until rather late in the season, as the spring was late and this in itself has lessened the area planted. Unless nature gives an extremely bountiful crop something near starving stares many people of the world in the face.

The Next Gladiolus Show.

The flower shows held so far this season have been of an exceedingly interesting character and well attended and there is no doubt but what the August show of the American Gladiolus Society will be one of the best, if not the very best, ever held. It was our wish to print the complete prize list in this issue, but it came to hand too late. We expect to publish it in full in the August issue. An attractive list of prizes will be offered, both in the Open and Noncommercial Classes, and there is no doubt but what it will draw out a grand display.

Considering the prosperous condition of the trade, Gladiolus growers have not in our opinion been liberal enough in contributing to the prize list of the A. G. S., but there is still time for those who have neglected to do so, to take the matter up with Prof. A. C. Beal, Secretary.

Odds and Ends From the Garden.

There is a little Birch-fringed swale, that last year, but one, was a riot of Goldenrod and Marsh Asters, Thoroughwort and Joe-Pye-Weed with here and there thrifty clumps of water-loving Irises. It lies between the garden and a bit of pond and has long seemed to call for a little more finished treatment. Now it is at least half tamed. There are a few meandering paths, a succession of bloom, a new spot for gardening adventures.

I have left the thrifty Irises, the six by six foot yellow *pseudacorus*, the blue and white Sibericas, and our native versicolor, but to these have been added plants from the garden that need continuous moisture and a careful selection of the less rampant wildlings. I have sort a happy balance of growth between such plants as will require little care and yet have a flavour of the near-by garden.

A shapely young tree of Tupelo (*Nyssa sylvatica*) is full of character, a stray Elderberry bush, even a common Alder has its place and each in its season gives an added bit of interest to be reflected in the still waters. A few plants of the native Azaleas are lovely; *Vaseyi* for its soft pink masses in May, the flaming *calendulaceam*, Rosy Arboreseens and the white swamp Honeysuckle (*viscosa*) the last two more for their charm of leaf and branching than for the flowers which come, half-hidden in the foliage, in July. I like the winter green of the Inkberry (*Ilex glabra*) and the bright red berries of its bigger brother *verticillata*. It is a small place so that each is but a sample and each has a spot value in the composition. There is an undergrowth of swamp Violets in white and blue, and blue Forget-me-nots, and where the water is very near the surface yellow Cow-slips (*Caltha palustris*) and the really charming double form. The Buttercups also feel at home both the double Fair Maids of France and a single creamy white.

With June come Spireas and Astilbes with their feathery plumes and neat tufts of foliage. I am always cutting back the runners of *S. sorbifolia* but value its fresh green in earliest spring. *Aruncus* has a more airy touch and keeps well within bounds and the same might be said of *palmata* with its wooly clusters, and the fern leaved Evergreen *filipendula*. For rosy tints I prefer the new Astilbes, the Arendsi varieties, *Ceres*, *Brunhilde*, or *Pink Pearl*, which are fine in contrast with certain of the big Jap Irises.

August brings a rift of Cardinal flowers and the maiden-hair like foliage of Meadow Rue behind, with even taller Turk's Cap Lilies. Perhaps it is a grouping of loose-panicled white Phlox and tawny Lilies (*Hemerocallis fulva*, the double form is very stiff) or yet again the bold leaves of the Compass Plant (*Silphium*) that may catch the eye, and after the September frosts, late Asters linger, masses of lavender lit by the deep red autumn tints of the Tupelo or the yellowed Iris leaf-blades.

Few of these colors are used in great quantity, they form a series of pictures, the whole bound together by masses of Irises, their vertical lines of growth in contrast to the lower, flatter clumps of the Astilbes. Even without color there is a pleasing variety of interest of foliage masses and hues, now bold, now delicate, deep green or light.

Where the open gives way to the flickering shadows of the Birch copse, there are Primroses, Violets, and great drifts of Ferns. Here there is drainage as well as moisture and in early spring there are Primulas of every hue, little single flowered double white ones, like miniature Camellias, clustered Munstead hybrids from palest yellow to chrome, a few of the rich garnet and yellow forms, some with gold laced edges, and, to me the most fascinating of all, *denticulata* varieties whose flowers make little globes of cream, pale yellow or lavender. But little later to bloom are a few clumps of Rose and Magenta *Japonicas* with whorls of flowers on stout two foot stalks, but mostly I have the lighter colors that blend with fresh green of the Birch buds and the uncurling Fern fronds.

Such is the basis of my garden and it gives an object to many a woodland walk or country trip for who can resist adding to a garden, collecting and welcoming thereto some unfamiliar plant. Already I have started a number of little colonies. *Uvullaria* with its strawtoned bells is well established, Jack-in-the-Pulpits seem at home, there are big Solomon's Seals and Trilliums in white and deep dull-red. Some day I shall have a mat of the little Dutchman's Breeches (*Dicentra cucularia*) and perhaps in a sunny spot I can grow some of the swamp Orchids (*Calopogon*, *Pogonia* and *Arethusa*,) perhaps even the lovely Fringed Gentian. Apparently this last is a biennial, at least it defies attempts at cultivation and although some chance sown seed at a cross-roads has grown, in the garden there has been nothing but failure. Its slender stems and smooth leaves, the satiny texture of its flowers and above all its color have a refinement beyond compare. The Closed Gentian is more casual in its friendships and its dull purple flowers take on a nice reddened hue after the first frosts. That I can grow.

There is wealth of association behind these wildlings, one may carry you back to a pleasant picnic in a cool glen, another to a mountain scramble, or a hot hike across a sandy plain. Personally I do not associate remembrance of my human companions with such a find as much as I do the spirit of the day, the call of the environment, and just as the wildlings in my garden have such a background so I like to develop some history for my purchased plants. Does it come from Siberia or Thibet, Crete or Oregon? When was it first discovered and under what conditions? There is a certain joy in growing as neighbors, plants from so many climes and I shall never forget the feeling of home that I derived from knowing and recognizing trees, and shrubs, and flowers by the roadsides of France and England as I marched by. There can be little feeling of homesickness among familiar faces, in familiar scenes and the lover of flowers, will find much that is familiar in any country of the temperate zone.

R. S. Barre.

The Western New York Floricultural Society.

Under the above title a society has been organized to stimulate an interest in floriculture. Its objects as set forth in a preamble are as follows:

The Special Object of this Society shall be to foster, stimulate, increase in every possible way the general interest in the cultivation of flowers and plants in Western New York.

1st. To encourage and promote the beautification of the city by means of its home, school and playgrounds, etc.

2nd. To disseminate a knowledge of the best varieties of flowers and plants, and to the best methods of growing same through our official organ, THE FLOWER GROWER.

3rd. To hold meetings during winter months, reading of essays at said meetings and the general diffusion of knowledge amongst its members.

4th. To hold exhibitions and to encourage the exhibition of flowers and plants at the leading Western New York Fairs.

5th. To make observation trips to all places, far and near, that show beauty and advancement in the Horticultural Art.

6th. To encourage and promote school gardening and the study of flowers in the schools of Western New York.

7th. To co-ordinate garden work with Social Service and other organizations.

8th. The advancement of horticulture in all its branches, and to that end we cordially invite all who are, or may become interested in the same to unite with us.

Patrons of the society include L. H. Bailey, of Ithaca, F. R. Pierson, of Tarrytown, John L. Childs, Floral Park, T. A. Havemeyer, Glen Head, and others well known in horticulture.

Henry W. Martens is President, R. E. Davey, Treasurer and Schuyler Arnold, Secretary.

All communications should be addressed to the Secretary, Schuyler Arnold, Coldwater, N. Y.

Insects and Fungus Diseases.

Thoroughly successful gardening cannot be practiced without due regard for the injury caused by insects and fungi and the scientific effort to control them. The domesticity of plants bringing them into conditions often foreign to their natural environment, seems to court the attacks of diseases and pests, which are so common and insistent as to constitute a menace at all times, even to uncultivated species. To form an idea of how plants will thrive when deprived of these enemies we can but do all in our power to effect it by every known and suitable means and note the result. The struggle for existence is going on about us, seen and unseen by human eyes; it is not alone the leaf beetles and their larvæ, the defoliating lepidopterous caterpillars and the sucking bugs that play havoc if unchecked. At the roots, in the stems, within the blossoms and the fruit, others are at work that cannot so easily be reached.—American Suburbs.

WAYSIDE RAMBLINGS

[*Written expressly for The Flower Grower.*]

DATES OF BLOOMING OF GLADIOLUS PRIMULINUS HYBRIDS.

The following list deals with Primulinus varieties only. The corms were planted as soon as the weather, in each year, permitted. The date given is that on which the first flower was open:

	1917	1918	1919
Variety	D.M.	D.M.	D.M.
Albion	7 8	2 8	5 8
Alethea		8 8	6 8
Alice Tiplady	1 8	28 7	30 7
Altair	25 7	23 7	30 7
Anamosa	7 8		6 8
Angola	1 8	31 7	1 8
Anita	28 7	30 7	30 7
Argos	31 7	24 7	25 7
Ariadne	31 7	29 7	11 8
Arlon		30 7	30 7
Astra		30 7	1 8
Aurega			2 8
Bouquet		2 8	2 8
Canonite	29 7	24 7	31 7
Canopus	2 8	23 7	31 7
Capella	5 8	2 8	7 8
Cassandra		2 8	3 8
Countess Torby	24 7	21 7	25 7
Dexter			24 8
Elberton	24 7	21 7	31 7
Elegant Beauty		6 8	2 8
Enon		1 8	9 8
Faun		12 8	7 8
Firefly	22 7	29 7	26 7
Florian		4 8	25 7
Gladness		14 8	4 8
Gold Drop	9 8		12 8
Golden Gate	30 7	8 8	
Golden Girl	10 8	24 7	28 7
Linton	26 7	23 7	26 7
Midsummer Dream		6 8	3 8
Mintaka	25 7		5 8
Mira or Myra		2 8	2 8
Nopal		29 7	30 7
Nova		25 7	1 8
Nydia		2 8	24 7
Prim		8 8	9 8
Primunella			6 8
Ramona			5 8
Regulus	1 8	28 7	23 7
Rigel	11 8	8 8	9 8
Rodano		2 8	31 7
Rosalia		6 8	5 8
Sedan	30 7	28 7	25 7
Seneca	26 7	28 7	
Silvis	14 8	8 8	15 8
Sirius	5 8	4 8	6 8
Spica	2 8	28 7	2 8
Sweet Orra	27 7	24 7	30 7
Topaz		29 7	26 7
Tupelo			8 8
Ulrica		21 8	6 8
Vega	29 7	27 7	5 8
Yeoman		11 8	2 8
Zenobia		29 7	25 7

South Hants.
(England)

PLANTING IRIS, ETC.

A party in Wisconsin wrote and asked me why I did not tell the many readers of THE FLOWER GROWER my way of planting Iris. It is thus:

A shallow trench is dug with a potato fork, and perpendicular on one side. The plants are placed against the perpendicular side, and dirt drawn against them with the hand to hold the plant in place. The dirt drawn in with the hand is also firmed by striking it with the hand. Then the dirt is raked in with an iron garden rake until the trench is nearly full, and then it is firmed with the foot, but you must firm it against the perpendicular side or the plant will be pushed down too deep. After firming with the foot the balance of the dirt is raked in, but not firmed.

I plant all Perennials, Dahlias, Asparagus, Clematis, small shrubs, &c. this way. If you have never planted this way you will be surprised how much easier it is than the old way.

Phlox and Platycodon should be planted with the crowns one inch below the surface, and Peonies two inches, and it is a very easy matter to have them at the right depth when planted this way, but if you dig a hole it is not so easy to have them at the right depth. When one wishes to plant in sod the best way is to take off a very thick sod, and then loosen up the dirt, and then dig through the center leaving one side perpendicular to plant against.

If clumps of Iris are planted they cannot be planted against the perpendicular side, but a hole has to be dug. When planting clumps of Iris the rhizomes should not be covered more than an inch deep. I never plant clumps of Iris for smaller plants soon make a fine showing, and do not have to be divided so soon.

Flowers are very much like people and animals. Some are very beautiful, but languid, and never make good. Others are large and healthy, but not good to look at. Some are lazy while others are liars, and I had one seedling Iris lie to me last season, and also caused me to do the same. I described it as being late, and this season it was medium early. If I find a seedling that is very good, but the plant lacks vigor I seldom name it, but may grow it a few years, but they are generally a disappointment.

Among my seedlings blooming this season for the first time I have some of the largest Iris plants I ever saw, and the flowers are extra large too. Had one that was nearly four feet high when in bloom.

WILLIS E. FRYER.

SPANISH IRISES.

Spanish Irises are now unobtainable, owing to Quarantine No. 37, unobtainable except in limited quantities strictly for purposes of propagation, and subject to the regulations of the special permit under which only they may be imported.

B. C. AUTEN.

CORMS VERSUS BULBS.

That sounds like an absurd suggestion, and when applied to the Gladiolus, it certainly is. But, follow it out to the end. Do we not persistently say "Bulblets?" and ought we not to be consistent? If Corms then Cormlets, or if we are going to use Bulblets, then we ought also to use "Bulbs." It is worth while to be correct, and the writer makes this statement confidently although he places the accent on the third syllable of Gladiolus, knowing all the while that it belongs on the second!

W. E. SAUNDERS.

PROPAGATING PEONIES FROM ROOTS.

Buds absolutely will not develop on roots of Chinensis Peony. They will develop only in the bark of the stem or crown tissue. As I am no botanist I may err in details, but I am positive that root tissue of the Chinensis, Peony is utterly unable to form buds.

B. C. AUTEN.

DIGGING GLADIOLUS CORMS IN QUANTITY.

We have never used a beet digger for harvesting Gladiolus bulbs, but we have used a sub-soil plow with fairly good results. Last season we used an old potato digger with the elevator chain removed and we can hardly see how any tool could do better work. It loosens the soil nicely and leaves the top standing in good position to handle.

A. H. AUSTIN CO.

Hardy Amaryllis.

BY MRS. E. B. MURRAY.

[*Written expressly for The Flower Grower.*]

Lycoris Squamigerii or Hallii is a rare and lovely bulbous flower, but little known. It is among the comparatively recent introductions and this flower does not receive the attention it deserves. It has so many good qualities that it should be in every hardy garden—large or small. One bulb or a small clump is lovely. But a large bed of them, say, fifty or one hundred, would certainly be a dream of beauty. Its absolute hardiness is one great and admirable quality. Who among us has not bought, often when we could ill afford to spare the money, various plants or Lilies, warranted hardy, only, when another spring comes, to find the place vacant, our cherished flower dead? No such experience awaits the gardener who plants one of these Amaryllis. As sure as Spring comes the big tuft of light green long leaves, somewhat like a big Narcissus, but lighter green, comes up and grows rapidly until about July 1st, it then begins to turn yellow and finally dies. Some morning in August, walking through your garden, you stop amazed at seeing one, two or more—according to the number of bulbs you planted—tall reddish flower stalks big as your thumb, in fact a regular Amaryllis flower stalk which is unlike any thing else only this grows so fast. I have never seen one less than 8 or 10 inches high. I don't know when they start, but they grow like a Jonah's Gourd. The flowers are from 6 to 10 on a stalk and their color is impossible to describe, a blending of pink and lavender—most wonderful. The bulbs are large and increase rapidly in size and number. From one, planted in spring, 1914, in 1917 I took up (because they had grown up out of the ground) four, three times as large as the original one. They should be planted about six inches under the soil as their tendency is to work up towards the surface. The bulb is exactly like our Amaryllis. I think they are a near relation to Am. Belladonna, although I have never seen one of these bloom. But Am. B. makes its growth in fall and winter.

Catalogues and Price Lists.

Babcock Peony Gardens, R. D. 79, Jamestown, N. Y.—Exceptionally complete catalogue and price list of Peonies, bulbs and hardy plants, 18 pages and cover.

H. F. Chase, Andover, Mass. Fernlea Iris and Peony Gardens.—Retail price list of Peonies and Irises.

THE ROSE

Watson on Roses Old and New.

William Munro of Garrettford, one of our most expert Rose growers, in talking about the passing of the old timers of the cut flower Rose world all except *American Beauty*—made a remark worthy of note. Yes, said he, you talk about *Beauty* being the only one that has stood the razzle dazzle these thirty years. It has all right, but there's another one that's going to stand just as long. And what's it? sez I. Guess, sez he. Well, sez I, I'm not a Rose man but I'd say *Mrs. Charles Russell.* Wrong, sez he, its *Hadley.* H'm sez I, and why? Well, sez he, its got the guts to it like *Beauty* and its just as hard to do well. *Russell*, on the other hand, is too easy and it will be overdone in a few years. So Mr. Grower put that in your pipe and smoke it. Bill ought to have been along with the Burton party through Montgomery & Bucks Co. last fall. It would have stirred some of them up a little. But on the other hand he might have been dumb as a clam—unless stirred up with a wee drap. It's a hard job to get a valuable secret out of a man—expecially a business pointer. They don't give it away at Sunday School.

And speaking of past history our veteran florist, John Westcott, tells us that in 1875 there were only two roses on the list in these days, *Safrano* and *Marechal Neil.* Later on *Bon Silene* used to come from Boston and with them came Bill Stewart, Nick McCarthy, Patrick Welch and Bill Elliott. That was about the start of the commission business in Phila. Among the first of the natives in that time was probably Bill Meehan—although Charlie Pennock and Bill Baker closely followed him. Of these three, the Honorable William J. Baker is the only one left. William E. Meehan has been a fish commissioner for many years, and Charles E. Pennock, as already stated, died in 1891. So we have to take our hats off to William J. Baker as well as to Samuel S. Pennock in this connection.

Geo. Watson in *Horticulture.*

The Ramanas Rose (*Rosa Rugosa.*)

This is a native of the coast sand-dunes of North-Eastern Asia. The thick, dark green leaves seem able to resist the attacks of insects and the diseases which often discolour the leaves of many Roses. The flowers of the typical wild plant from Japan are red, but there are varieties with pure white and with clear pink flowers. No other Rose is so hardy as *Rosa rugosa*, and, left to itself, it spreads into great thickets. No shrub is better suited to grow in exposed positions on the New England coast; it grows equally well in the rich soil of the garden, and no other Rose is so valuable in this climate for making low hedges. Valuable as the Japanese *Rosa rugosa* has proved itself as a garden plant, its greatest value is in its ability to transmit its hardiness, handsome foliage, and large flowers to its hybrid offspring. Among these are already several beautiful garden plants, which suggest that the plant breeder who wishes to produce new races of Roses able to grow and flower successfully in the Northern States must combine *Rosa rugosa* and its hybrids with other hardy Roses. Rose breeders are singularly reticent about the plants they have used in their work and there appear to be no printed records of the parentage of any of the *rugosa* hybrids with the exception of the two which have been raised in this Arboretum. One of the earliest of the *rugosa* hybrids, *Madam Georges Bruant*, has pure white, semi-double flowers, which continue to open until the coming of frost. More distinct is the Rose named *Courad Ferdinand Meyer* This is a large shrub, with large, nearly double, clustered pink flowers. The foliage and flowers show little *rugosa* influence, but its vigor and hardiness are probably derived from the Japanese parent. *Nova Zembla* is a white-flowered sport of this Rose. At least twenty other European hybrids of *Rosa rugosa* have received names. Some of these are not distinct, and others have little to recommend them as garden plants. In England standards with weeping branches have been successfully grown by budding this Rose on the tall stems of other Roses, and it would probably prove one of the hardiest standard Roses which could be grown here. It can be trained over a fence or arbour, but can be best used to cover banks and the ground under other shrubs or small trees. The two *rugosa* hybrids raised by Dawson at the Arboretum have proved to be good garden plants. In habit *Lady Duncan* resembles *R. rugosa repens alba*, but the stems are not so stout; it can be used as ground cover or trained on an arbour or trellis. The flowers are rather smaller than those of *R. rugosa*, and pure pink, and the leaflets are smaller and very lustrous. This Rose was obtained by crossing *Rosa rugosa* with *R. Wichuraiana.* The Arnold Rose, *R. Arnoldiana*, was raised by Dawson by crossing *R. rugosa* with the Hybrid Tea Rose *General Jacqueminot.* It is a stout bush, with good foliage and large, bright, red, single flowers, and when in bloom perhaps the showiest of the Roses in the shrub collection.—*Arnold Arboretum.*

Ohio State University, Columbus, Ohio, issues a bulletin entitled "About Roses," by Prof. Alfred C. Hottes, well known to readers of The Flower Grower. It is presumed that this will be sent on request to those interested as long as the supply lasts. Some very practical suggestions are contained in this bulletin which consists of sixteen pages with a number of illustrations.

American Rose Society

Roses Suited to Various Localities.

The American Rose Society in their Annual for 1920 publish a map showing localities suitable for the different classes of Roses which is of exceeding value to Rose growers.

Generally speaking the southern states south of Tennessee, parts of Texas and Oklahoma, and parts of Arizona and California are suitable for Tea Roses, *Noisette* and other tender Roses.

Hybrid Teas are safe in the northern tier of southern states and the southern tier of northern states including parts of Texas, New Mexico, Nebraska, Iowa, Pennsylvania, and Ohio and the territory bordering the Pacific Ocean in Washington and Oregon. The sections immediately surrounding Lake Erie and the southern shore of Lake Ontario are given in this class.

Hybrid Perpetuals and Rugosas are reported to do well in sections of Maine and the greater part of New York, Michigan, Pennsylvania, Ohio, Wisconsin, Iowa, Nebraska, North and South Dakota and the eastern half of Montana and Wyoming, also parts of the Rocky Mountain states.

Quite a large territory is reported as being unsuitable for Roses because of severe winter conditions and frosts during the summer. This embraces the greater part of the Rocky Mountain region, northern Michigan, Minnesota, and the higher altitudes of New York, Vermont, New Hampshire and Maine and parts of California.

Altogether it may be stated that varieties of Roses must be selected with extreme care if satisfactory results are expected. The annual waste resulting from the planting of varieties unsuited to the climatic conditions prevalent, is enormous, and nurserymen who sell Roses unsuited to the locality where they are to be grown are largely to blame for this waste.

The work of the American Rose Society may, of course, be supplemented by still further information along this line, but the map referred to is to be highly commended as a start in the right direction.

Field Day.

Washington, D. C., June 2nd, 1920.

June 2nd was indeed an ideal Rose Day in Washington, D. C. About 100 members of the American Rose Society registered at the store of Gude Brothers, 1214 F Street before 10 A. M. Automobiles were waiting to take the party to the Rose Test Garden. The Roses in the Garden were at their best, and the party spent two most pleasant hours enjoying the abundance of Rose bloom. The climbing varieties were not in full bloom, but the Teas, Hybrid Teas, Polyanthas, and Rugosas were magnificent.

On the day previous a committee consisting of Dr. B. T. Galloway, chairman, L. C. Corbett, F. L. Mulford, W. Van Fleet and D. N. Shoemaker made a careful survey of the Garden. The committee reported that they found the Garden in generally good condition. The season has been backward, consequently Roses are from ten to twelve days' late. There is very little mildew. The severe winter injured a good many of the varieties. The committee considered only the varieties now at their best. Of the Pillars, *Scheila Wilson, Paul's Scarlet Climber*, and *Paul's Carmine Piller* were scored the highest. Of the Baby Ramblers the following were particularly good: *Yellow Baby Rambler, Triomphe Orleanais, Mrs. W. H. Cutbush, Gruss an Aachen, Echo, Marie Pavie, Clothilde Pfitzer, Schneekopf.* Of the Teas and Hybrid Teas the following were given special mention: *Ophelia, White Killarney, Königan Carola, Lady Alice Stanley, La Tosca, Lady Ursula, Lady Ashtown, Gustav Grunerwald, Killarney Queen, Gruss an Teplitz, Avoca, Red Radiance;* and of the Hybrid Perpetuals the committee made special note of *Maharajah, Pierre Notting, General Jacqueminot, J. B. Clark, Mrs. Sharman-Crawford, Paul Nyron, Victor Verdier*, and *Frau Karl Druschki.* The committee made special note of the following Moss: *Luxemburg, Briers, Flora McIvor, Julia Mannering, Anne de Geiristein, Bradwardine, Green Gravarian, Rugosa No. 14668* (Van Fleet), *Rosa Parfume de la Haie, Amelia Graverian*, and *Rugosa prostrata.* There are in the Garden 403 varieties of Roses as follows:

Hybrid Perpetuals	51
Hybrid Teas and Teas	154
Bush Rugosa Hybrids	27
Climbing Wichuraianas	66
Baby Ramblers D. Mulfiflora	30
Climbing Tea Hybrids	14

Climbing Noisette Hybrids	12
Climbing Multifloras	36
Climbing Setigeras	5
Climbing Miscellaneous	8
	403

From the Garden the party was taken through the Arlington Cemetery, stopping at the new Memorial Stadium and at Lee's Mansion. They then went to Mrs. Bell's beautiful home at Twin Oaks where an hour was spent in the garden and in enjoying the hospitality of Mrs. Bell. Refreshments were served on the broad verandas at Twin Oaks after which Mrs. Bell showed the visitors through the garden. Returning to the house Mr. Gude addressed Mrs. Bell stating that the American Rose Society through its President, Mr. Pyle, wished to express its appreciation of her hospitality. President Pyle then stated that because of Mrs. Bell's repeated hospitality and especially because of her interest in Rose progress as manifested by her gift of the Hubbard Memorial Gold Medal, the Executive Committee had unanimously voted to confer on her an honorary membership. He asked Mrs. Bell to accept this membership as a slight token of the appreciation of the American Rose Society. Mrs. Bell graciously accepted and thanked President Pyle for the honor conferred upon her.

The party then returned to the Ebbitt House where luncheon was served. The tables were beautifully decorated with *Red Radiance.* In the somewhat formal after-dinner speaking W. F. Gude presided, and first introduced Professor Corbett, asking him to speak on the development of the Rose Test Garden. Because of trouble with his voice Professor Corbett asked to be excused. J. Horace McFarland was then introduced and spoke on "Hugonis and Its Hybrids." After discussing the beauty and hardiness of the typical Hugonis Mr. McFarland spoke of the wonderful work Dr. Van Fleet has done in producing hybrids of this species; he also expressed the appreciation of the American Rose Society for the splendid work the Department of Agriculture is doing in developing a type of door-yard roses which will beautify thousands of homes in the rural districts, and types also suited to roadside planting.

President Pyle then spoke of the pleasure it gave the American Rose Society to visit the National Rose Test Garden, and he emphasized the unique character of this Garden in comparison to other Test Gardens. He said: "We in America are just pioneers in Rose production. We need more of the love of the beautiful in our hearts which will make life more a joy of living." He suggested that names should be carefully selected for the new varieties which should stand as monuments for the Rose workers and Rose lovers of America. President Pyle was followed by Peter Bissett of the United States Department of Agriculture who spoke of the introduction of some of the newer species of Roses and their adaptation for American conditions. "The conditions in America are so varied that we need a wide range of species and varieties from many sections of the world to meet the needs of all American localities."

Mr. S. S. Pennock of Philadelphia spoke of the rapid growth of the Society since he was president in 1916. There were then 309 members, while the Secretary reported June 1st, 1920, 2202. He expressed his regret that more of the commercial men were not present at this meeting for he felt sure that the interest in outdoor Rose growing by the amateur will be a big financial aid to the commercial men.

Dr. Galloway then gave the report of the Rose Test Garden as previously outlined.

Dr. Beal, of Cornell University, was the last speaker of the afternoon. He said, "We need to distinguish two types of gardens, the test garden, and the Rose display garden. The American Rose Society probably has now enough test gardens to demonstrate what the varieties of Roses will do in each section of the country. We need most at the present time Rose demonstration gardens where the standard varieties will be grown, and those which are known to be hardy. Each city and town should be encouraged to establish a Rose Show Garden."

At the close of the luncheon the party was taken to the site of the proposed Washington Rose Show Garden. At a meeting of the Executive Committee last fall J. Horace McFarland, Frederick Law Olmstead, Representative James R. Mann and S. S. Pennock were appointed on a committee to develop a project for such a Garden. The committee had decided on a site on the banks of the Potomac near the Arlington bridge, and Frederick Law Olmstead had promised to produce a plan for the development of the Garden. Colonel Ridley, Superintendent of Public Grounds and Buildings, met the party on the proposed site and outlined briefly the proposed plan. He stated that the War Department was glad to do all it could to forward the project. The area has been used as a propagation garden for Evergreens, and it would be necessary to retain a portion of it for that purpose for the present. There are now available one and one-half acres out of a total of six acres. He stated that the Garden could not be realized in a moment, but the War Department was glad to make a start.

On the day previous to the Washington meeting, the Executive Committee met Dr. Van Fleet in the Test Garden of the U. S. Department of Agriculture at Bell, where Dr. Van Fleet is working to produce American types of Roses. The afternoon was indeed most interesting, for Dr. Van Fleet was very willing to show the committee his numerous hybrids for he knew that they had a keen interest in all that he is doing. There were many Rugosa hybrids, one of which Rosa rugosa x Triomphe Orleanais was especially good. A variety of forms of prostrate rugosas were wonderfully interesting. There were also crosses of rugosa with Hugonis, and with varieties of Hybrid Teas. Moysii Hybrids were numerous, one of which, *Moysii* x *Red-Letter-Day* was particularly good. Dr. Van Fleet is working to secure a white-flowered variety of rubifolia, and several specimens were in bloom.

The American Rose Society feels deeply indebted to the officials of the U. S. Department of Agriculture, to the Washington Florists, and to the prominent rosarians of the District, for the cordial hospitality extended the Society. Mr. Wm. F. Gude was especially generous in giving his personal attention to every detail of transportation so that the comfort of each visitor was assured. Mr. C. E. F. Gersdorff, chairman of the Washington Rose Test Garden Committee, also made most painstaking plans for the entertainment of the members of the Society.

E. A. WHITE, Secy.

How to Secure a Rich Soil for Flower Growing.

[*Written expressly for The Flower Grower.*]

A tract or plot of ground should be selected two years in advance of its being required for flowers. Manure heavily in the fall of the year, from 20 to 50 loads per acre, according to the manure, previous condition and purpose for which ground is to be used. Plow under just before freezing weather comes. In the spring sow rye and vetch thickly, broadcast or drilled, three to four bushels per acre. This need not be the winter vetch. Spring vetch will answer, about one pound of vetch to three pounds of rye. When this growth attains a height of eighteen inches to two feet it should be plowed under. Plow a little deeper than you did in plowing under the manure the fall before. This will bring the manure and a thin layer of sub-soil to the top of the ground. Keep this harrowed until late fall to kill any weed seeds which sprout. Then apply well rotted manure at the rate of five to ten loads per acre, and the following spring this land will grow most anything.

It is assumed that the land is in fair tilth to begin with and that it does not need liming, but it would be a good plan in applying the first coat of manure to use about fifty pounds to one hundred pounds of ground limestone to the load, scattered on the top of each load before being spread on the ground.

When planting the crop the next spring it would be well to discharrow the ground rather deeply, four to six inches. Special fertilizers like bone meal or mixed commercial fertilizers could be applied to suit the crop to be grown. Small quantities only need be used.

True, you lose one year's use of the land, but the results are easily worth it.

MADISON COOPER.

Effect of Light on Plants.

The Bureau of Plant Industry, U. S. Dept. of Agriculture, has conducted some greenhouse experiments to determine the effect of light on flowering and fruiting period of plants. It has been practically proven that any plant can be made to mature its seeds or fruit at any time during the year by reducing the amount of light if a retarding effect is desired or by adding artificial light if a forcing effect is desired.

It is asserted that spring flowers and that spring vegetation are early because the days at the season of their developing have the proper number of hours of daylight, for their particular requirements. By using dark chambers the experimenters have lengthened the life cycle of the plants or by increasing the amount of light have shortened the life cycle. Violets, for instance, have been made to bloom in summer.

Temperature appears to exert little or no influence which is quite contrary to the accepted theory. The relative unimportance of temperature was demonstrated in the fact that plants kept in the dark for part of the day underwent in midsummer changes that in nature come in the fall of the year.

The February, 1920, issue of THE FLOWER GROWER was in such great demand that our surplus is exhausted. Those having spare copies in good condition will convey a favor if they will return them to this office, and we will advance subscriptions, in exchange for same, two months for each copy of the February issue returned. The demand for bound volumes of THE MODERN GLADIOLUS GROWER and THE FLOWER GROWER will doubtless continue for many years.

The American Iris Society.

Late May and early June has been the time of exhibitions and the success of our shows in Cincinnati, Washington, Philadelphia and Boston is a pleasing presage of even greater success another year. In Nashville the Society has merely offered one prize at each meeting of the "Iris Fanciers" and the Minneapolis show on June 10th is too late for me to make a report this month. I have been fortunate in being present at all three of the shows in the Eastern District and the enthusiastic co-operation of so many amateurs has been particularly inspiring as it seems to confirm our belief that the Society should not hold One Annual Show but should foster as many Regional or even local shows as possible. Almost without exception the amateurs (even coming from a distance) staged fresher flowers in better condition than did the commercial growers. There are many comments as to schedules and procedure, but such discussion must await another issue.

CALIFORNIA.

Owing to the season Mr. Mitchell writes me that though a competitive show proved impractical he was able to stage an educational exhibit of 100 varieties at the Alameda County Floral Society Exhibition on May 16-18. The exhibit received most favorable comment in the San Francisco, Oakland and Berkeley papers. Mr. and Mrs. Mitchell and Mr. John A. Imrie were present throughout the three days of the exhibit to answer questions both about Irises and our Society which must have added greatly to its value to the interested public. Such a co-operative exhibit should prove of great value in other centers where Irises are not well known. Mr. William Mohr's table of seedlings, some of them very fine, proved particularly attractive to visitors. In his publicity work Mr. Mitchell has also talked before the Garden Club of Santa Barbara and plans similar work in Oakland and elsewhere. Before another year I hope that we may have literature to distribute that will carry on such good work.

TENNESSEE.

Here also much of our work has been done informally, one of our members, Mrs. Katherine P. Wright, has been in direct charge of the "Iris Fanciers" in their almost weekly garden shows. I hope that another year an Exhibition with schedule will permit a fuller co-operation and an award to some of Mr. Brallior's seedlings, one of which, a large delicate lavender, has been reported as extremely charming. This year Mr. Brallior was most fortunate in having such a well-developed interest in Irises already at hand. Members in other localities should find Mrs. Wright's report most suggestive of what can be done in their home town.

The "Iris Fanciers," fifty-five in number, many of them owners of beautiful gardens, have, at the suggestion of Mrs. Wright, who has been ably seconded by Mrs. Norman Kirkman, Mrs. W. W. Dillon, Miss Margaret McIntyre, Dr. and Mrs. L. C. Glenn, and Mr. Clarence Connell, the Park Commissioner, opened their gardens to the community when they are in best bloom. Daffodils, and Irises, Peonies, Gladioli, or Chrysanthemums each have their days, and there have been two exhibitions of Irises in Mrs. Wright's garden and many have brought of their best. It has more than justified the expectations of the members in the stimulation, not alone of Iris planting, but of flowers in general, and it proves a great incentive to civic improvement. Already hundreds of Irises are being planted and the movement is extending to neighboring towns.

At the first show Mrs. Wright took first prize with a finely developed stalk of *Purple King*, and at the second Dr. Glenn's *Alcazar* won deserved honors and Mr. Connell's arrangement of a fine collection was also given an award.

WASHINGTON, D. C.

In Tacoma Park almost every dooryard has its touch of iris color. There are long banks of Irises in some of the parkings and the Annual Iris Show of the Horticultural Improvement Society brings out a brisk competition. Few of the exhibitors have many of the latest varieties but each year a greater number is shown and the seedlings exhibited by Mr. J. Marion Shull and Mr. Morrison are worth going far to see. Mr. Shull's Virginia Moore, which was awarded Honorable Mention, is a fine deep yellow and I expect to find it shortly among our newest introductions. He also has some most attractive yellow selfs, one with a tinge of pink in the falls, another of the clearest warm buff and some other fine, large variegatas. As Mr. Morrison was on the judging committee, his seedlings received no awards but they were a fine batch of distinctive coloring, as large and even taller than *Alcazar*. Mr. Homer C. Skeels was a successful exhibitor in a number of classes showing *Queen Caterina*, *Prosper Laugier*, and others. Mrs. Daniel Miller, Dr. Shoemaker and many more did their share in the competition and the general interest, the proof of the community spirit makes a strong contrast with the common lack of participation in shows of a similar class of growers in the large cities.

PHILADELPHIA.

Due to the courtesy of the Hon. John Wanamaker, the exhibition was held in University Hall, The Wanamaker Store and visitors found the setting of screens depicting Japanese Irises most effective. In many of the classes there was keen competition, in a few no entries, but there was a wonderful showing of the newest varieties side by side with old favorites. The Movilla Gardens of Haverford, Pa., and Mrs. Horatio Gates Lloyd also of Haverford, were the largest winners, the first receiving the A. I. S. Silver Medal for a collection of 50 varieties, the second the Amateur's Cup offered by Mrs. Charles H. Stout of Short Hills, N. J., for a sweepstake. The cup offered by Mrs. Lloyd was not awarded. Mrs. Haldeman O'Connor, Miss Florence Beck, and Mrs. M. W. Jacobs brought flowers down from Harrisburg in prime condition and the latter's seedlings made a fine showing, one a blended pink and yellow with blue reflections on the falls calling forth much attention. Mrs. John Love of Riderwood, Md., and Mrs. Ernest Dinning, President of the Hardy Garden Club of Ruxton, Md., staged prize winning blooms. Personally I was most agreeably surprised at the perfect condition shown by these entries from such a distance. The handicap of distance was particularly noticeable in the exhibits of the Wyomissing Nurseries Co. and John Lewis Childs, who showed fine varieties, but in part in rather poor condition. The class for arrangement was attractively shown and though Miss Glenn and Mrs. Harris were the winners, Miss M. C. Bell, of Bayside, N.Y., entered an attractive basket.

Two tables of seedlings were of great interest and A. I. S. Certificates of Honorable Mention were given three promising varieties. Mr. Farr showed at least fifty as fine or better than his previous introductions and *Seminole*, a rich red-purple with orange beard and flaring falls received an award. Others were in too poor condition as shown. Mr. Arthur H. Scott with a far smaller showing of flowers in good condition also won honors on Nos. 1 and 2; the first much on the lines of *Quaker Lady* but of much deeper tone, the other an open flower of a clear pink-purple, the straight-hanging falls a little deeper in color than the standards, and the flower large and of attractive form. The Twin Larches Nurseries among other entries showed some seedlings from the collection of the late Frank M. Thomas among which a Plicata was unusually charming. Mr. Frank H. Koehler also entered this class and I expect in another year it will prove one of the most interesting ones of an Exhibition.

Though Mr. Wister made no entries for competition, his showing of new varieties gave many of us our only opportunity of seeing some of the latest introductions and Tamar (Bliss) is very fine. Probably over 250 varieties were represented in the show and it is difficult to mention only a few. *Mrs. W. E. Fryer* proves to be large fine flower of rich coloring, *Syphax* (Bliss) is even more unusual and *Crusader* (Foster) was about the largest of all, though *Susiana* as shown by Mr. Farr was the most noteworthy. *Afterglow* and *Anne Leslie* (Sturtevant) though not large were much noted and on *Dora Longden* (Bliss) there seems to be considerable difference of opinion. It is large and of good form but of curious coloring; *Lent A. Williamson* is of the best and *Opera* and *Ambigu* (Vilmorin) are extremely rich. The great improvement shown by these latest introductions is very marked.

The show deserves much further notice. The efficient co-operation of The Wanamaker management was invaluable and to the Pennsylvania Horticultural Society we owe much not only for the generous cash contribution for prizes but for the loan of equipment and a most hearty assistance in many respects.

BOSTON.

Both days of the exhibit were marked by heavy rain but the quality of the blooms staged was very good. For many growers the date seemed a little early but George N. Smith made an unusually fine showing and Mrs. Homer Gage (Allen Jenkins, gardener) brought a big lot down from Worcester. Mrs. C. W. Willis won the Rookwood vase offered by Mrs. Samuel H. Taft with an unusually fine stalk of *Lohengrin* with *Queen Caterina* taking 2nd prize and *Niebelungen*, *Lent A. Williamson* and *Alcazar* in close competition. The exhibit of the Glen Road Iris Gardens included a number of the newer things, *Sweet Lavender*, *Mme. de Sevigne*, *Demi-deuil*, *Lent A. Williamson* and a number of numbered seedlings from R. W. Wallace & Co. of Colchester, England, and Mr. E. B. Williamson of Indiana. *Lord of June* shown by Mr. Smith received due attention and Mr. Williamson's *Cherokee Maid* proved of interest. Mrs. Percy G. Browne and Miss A. J. Osgood were also among the winners and from the comments overheard it would seem that another year with a more favorable season and weather there would be even greater competition. From the amount of time spent by the judges in deciding upon the finest specimen stalk, such a class seems to demand particular attention. It proved of especial value to the small grower who might perhaps have but one extra fine stalk. In Boston we are fortunate in being able to cooperate with the Massachusetts Horticultural Society. Its equipment is of the finest and its management exceedingly cordial to such organizations as The American Iris Society.

NOTES.

I wish to thank the few members who have responded to our appeal for stock contributions to the trial plantings. Another month I hope that I may have many more members to so thank, but please remember that what we want are the *lists* of available stock. Specific requests will be made for the plants themselves.

Owing to the reports of exhibitions there is little space to devote to the Annual Meeting this month. Apparently the complete list of officers has proved acceptable to all the members and they plan to continue the policy outlined in the January FLOWER GROWER, a policy which has already brought together over 400 Iris enthusiasts in four months. Do your bit to help us continue this fine showing.

Another month I hope for notes of more general interest but we should not begrudge acknowledgment to the many exhibitors who have made it possible to show hundreds of people what Irises and The American Iris Society can do to make their gardens even more beautiful.

R. S. STURTEVANT, Secy.

Cincinnati, Ohio, Show, May 27, '20.

Quality was a prime characteristic of the first Cincinnati Iris Show. Seventeen exhibitors brought their flowers to the show and many more would have had displays had they only been foresighted enough to join the American Iris Society. The vacant store in the Union Central Building made an ideal, centrally located place for staging the show.

The guiding spirit of the show was Mrs. Samuel Taft, who won the Silver Medal offered by the American Iris Society for the most comprehensive display. Her varieties were choice, well grown and the arrangement was well handled.

From Mechanicsburg, Ohio, the Wing Seed Company sent about one thousand spikes of bloom of the earliest varieties, these were exhibited by their local representative, Mr. W. A. Natorp, with an attractive background of palms, flowering plants and garden pottery. For this display, they received the Bronze Medal.

AWARD OF PRIZES.

Class 1—Collection of 30 varieties. First, Mrs. S. Taft; 2nd, Wing Seed Co.

Class 3—12 vases not less than 6 varieties. First, Mrs. J. F. Emigholz.

Class 5—Collection of 6 varieties, self colored. First, W. J. Engle Co., Dayton, Ohio; 2nd, Mrs. J. F. Emigholz.

Class 6 Collection of 6 varieties, bicolors. First, W. J. Engle Co.

Class 7—Artistic arrangement of Irises with or without other flowers. First, Mrs. Samuel Taft; 2nd, Mrs. Luke Smith; 3rd, Miss Neddie Gallaher.

Class 8—Artistic arrangement of Irises in a vase with an opening of not over 5 inches. First and 2nd, Mrs. Taft; 3rd, Miss Gallaher.

Class 10—Collection of Irises not bearded. First, Mrs. L. Smith; 2nd, Mrs. J. F. Emigholz.

Class 11 Specimen Stalk. First, Mrs. Taft with *Dominion*; 2nd, Mrs. Emigholz with *Alcazar*; 3rd, Mrs. Jacob Walters.

Class 12– Collection of 3 varieties. First, Mrs. Taft; 2nd, W. J. Engle & Son.

Class 13—Collection of 3 varieties, lavender bicolors. First, Mrs. Silas Waters; 2nd, Mrs. Taft.

Class 14—Collection of 3 varieties, rose and lilac shades. First, Mrs. Taft; 2nd, Mrs. Luke Smith.

Class 16—Collection of 3 varieties with yellow standards. First, Mrs. H. Hasemeier; 2nd, Mrs. Taft.

The show judges were: C C. Mickley, Herbert Greensmith, F. W. Barclay and A. C. Hottes.

The show offered an opportunity for the Iris lovers to note the names of the varieties which they liked the best. There was much friendly discussion of varieties and a lively interest in staging a better show next year.

From the *Cincinnati Times-Star*, we quote the following comments on the show:

"Men like deep, strongly-colored flowers," explained Charles Phillips, well-known Cincinnati man. "You can see it right here. The women will exclaim over delicate pastel shades, and the men—the men like a flower with a kick to it," supplied Dean W. P. Burris the Teachers' college head. "You are quite right about it. I like dark rich flowers best myself."

Since men, including professional growers, are largely included in the Iris society membership, it explained why, for instance, *Dominion*, a vivid hued, velvety purple Iris, in the collection of Mrs. Samuel Taft, attracted so much attention. *Dominion* was but one of perhaps fifty varieties shown by Mrs. Taft alone.

"How do you remember their names?" she was asked.

"How do you remember the names of children?" was the quick response. "As I go among my flowers I am often tempted to greet each of them by name, to say, 'Good morning, *Queen of May*; good morning, *Lohengrin*; good morning, *Pallida*.' If you care for them, you soon know them all quite well."

ALFRED C. HOTTES,
Ohio State University.

The Rock Garden Retaining Wall and its Construction.

Where gardens are formed in diversified country, walls of some description are necessary for supporting the banks of earth bordering paths, and other various levels. Wherever playing-grounds or terraces are desired in hilly districts banks of this kind must be made, and these, if not of too great a depth, may be effectively supported by dry retaining walls, which, instead of the usual sharp, uninteresting, sloping bank, difficult at all times to mow and keep right, by careful planting and selection of the subjects used can be eventually beautified with life and colour. In this district we are fortunate in being able to quarry our own blocks of sandstone, which for this purpose leave little to be desired, as, apart from its effective use as a support, it is easily worked, forms a most desirable home for choice alpine plants, and rapidly assumes a soft green Lichen-covered surface. These walls are easily built by an intelligent workman, who will shape two sides of the stones only, leaving the outer surface rather rough in order to catch the rain and show the natural beauty of the stone, laying the plants in between the layers of stone as the building proceeds. The stone of the district will generally be found suitable for this purpose, although plants grow more luxuriantly when associated with lime or sandstone, or stone of a porous character. In placing the first layer of stone, which should be 9 inches to a foot deep, endeavour to bury the bottom edge an inch below the ground-level. This will prevent its moving when successive layers are added. As the work proceeds, take care that the stones fall slightly inwards, filling up the back and crevices tightly with good soil. On the first layer place only sufficient soil to prevent the stones rocking, as it is from the soil in the rear and not that between the layers that the plants derive their nourishment.

Commence planting by laying flat on the stones the subjects desired, be it Gentian, Pasque Flower, Pink, or Hairbell and if a border joins the wall allow each subject to stream up through and lose itself in the border above.

The slightest sprinkling of soil is used; then add the second layer of stone. In doing so, care must be taken to place stones an inch or so back from the face of the wall, thus forming a small ledge. It looks better, plants do better, and the work is more effective and lasting than when the stones are kept perpendicular. This method should be carried out until the desired height has been reached, when the last—or top—plants may be inserted in the border. Many rare and beautiful subjects which are not easy to grow unless one possesses a large rock garden and not always then, will be found to succeed in this way.

Many people place far too much soil between the stones when erecting these walls, with fatal results, as holes occur, and drought reaches the vital parts of the plants. I have seen many such walls, once filled with choice alpine plants, in a few years occupied almost entirely with a few coarse things, such as Arabis and Alyssum, owing to the drought having got into the wall and destroyed the roots of the plants. Hosts of charming plants lend themselves to this treatment, including Gentians, Zauschneria, Plumbago Larpentæ, the two latter creeping between and behind the stones in a delightful way, and, when established, appearing in pretty little colonies. Others well adapted for this purpose are, Onosmas, Helichrysum, Echeveria on walls facing south, Saxifrages, Thymes, Blue Bindweed, Lithospermums, Edelweiss, Hairbells, alpine Wallflowers, Stonecrops, Erinus, Sedums, Tunica Saxifraga, Arenaria, Conandron, Ramondia, Haberlea, the three latter in cool, moist positions, Linarias, Tufted Pansies, Silene, Speedwell, alpine Phlox, Gypsophilas, Sweet Violets, tiny Hypericums, Polygala Chamæbuxus, Aubrietias, etc. To these may be added bulbous plants, such as Snowflake, Snowdrops, Triteleia, Scillas, Grape Hyacinth, Crocus (various), Hoop-petticoat Daffodil, Dog's Tooth Violets, and Anemones, while many seeds may be sprinkled in the fissures of the stones, giving colour and variety to this attractive mode of gardening.—E. M. in *Gardening Illustrated.* (English)

Lime a Universal Fertilizer.

While the soil chemists of the experiment stations are not willing to make very positive statements with reference to the use of lime in connection with growing crops, yet there is no doubt but that lime, especially in the form of ground limestone, can be used to advantage most anywhere. Lime is an element which is very much of a "mixer" and it is detrimental to but few crops, and when used in the form of ground limestone it is probable that it could be used almost indiscriminately. Lime can be mixed with other fertilizing materials safely with the single exception of bone meal. Even when no lime is required, if used in the form of ground limestone, no damage can be done.

MRS. AUSTIN'S TALKS

[Written expressly for The Flower Grower.]

A Gladiolus Farm in Oregon.

"YOU CAN PHONE us from Portland. We are reached through the Gresham Exchange, 343.

"You must plan to spend several days in Portland to see the things worth seeing there. First of all, of course, we want you to come out to Gladiolus Farm. Trains leave First and Alder streets at 8:45 A. M., 12:45 P. M. and 3:45 P. M. One of the earlier trains would be the nicest, then you could stay over night with us, returning to Portland late the next evening.

"Buy tickets to Mayberry. I will meet you there with my Ford."

We were in the interurban station in Portland and I was reading a portion of a letter from W. L. Crissey of Boring, Oregon, which we had received just before leaving San Francisco.

"Yes, they're at home," said my sedate husband coming out of the telephone booth with his grave, gray eyes alight, "and," looking at his watch, "the car is due in about 15 minutes."

"This postscript, 'Wear the oldest clothes you've got with you,' sounds good, doesn't it? I believe that means a trip in the forest, don't you?"

"Perhaps," and pulling a newspaper from his pocket he buried himself in its columns.

I was on tiptoe with expectation and went to the front of the waiting room where I could watch for the car better, wondering how one could calmly read a paper under such circumstances.

A woman, slightly gray, occupied the seat nearest the door. She seemed so alert and businesslike that she attracted me, and her frequent glances in the direction of the car-stop caused me to think that she might be waiting for the same car we were. I sat down beside her and we fell into easy conversation. She had been spending a week with her daughter in the city and was now going home.

"We are bound for Mayberry," I ventured.

"That's where I get off," she replied quickly. "Have you friends there?"

"Yes, a Gladiolus grower by the name of Crissey, W. L. Crissey. Are you acquainted with him?"

"Why, yes, I ought to know him," then with dainty dignity and sweet pride, she added, "He's my son."

After riding a few miles we came in sight, on our left, of a mountain of pyramidal form and covered with snow, glistening and sparkling in the sunlight. We thought that must be Mt. Hood and inquired of Mrs. Crissey who sat in the seat ahead.

"Oh no, that's Mt. St. Helen. You wouldn't think it ninety miles away, would you, and over there, looking as if only a little beyond, is Mt. Adams one hundred and forty miles distant."

"But where is Mt. Hood and will we see it on this trip?"

"Yes, very soon now."

"Are they always as completely covered with snow as now?"

"Well, they sometimes become a little spotted when the snow melts in summer, but the peaks are usually very white. There! You can see Mt. Hood now, but there are a few clouds around the peak. That is sixty miles from here."

"And none of them seem more than ten or twenty at the farthest."

The car slowed down at a small town and a wide awake appearing young man came in. "Well, how are you, mother, and here are the Austins? Have you people become acquainted? No, this is not Mayberry. I came on seven miles to give you a little auto ride through some of our country."

An enjoyable trip it surely was, but our attention was divided between beauty of the scenery and the persistency with which a man driving a truck held to the middle of the road. We said a few unkind things about him but quickly forgave him, at least Mr. Crissey did, when he stopped at the farm, proving to be a new bulb customer, and buying heavily.

When we drove in at the gate it seemed to me that we were at the road's end, but a glance at the right showed a sharp hairpin curve in steep descent. Mother Crissey vanished into a cottage near the gateway to join her husband, while from a second cottage, a short distance farther on, Mrs. W. L. Crissey came to greet us while her mother waited in the doorway. Rustically beautiful indeed were those cottages smothered in English Ivy with background of primæval timber. Two groves of patriarchal firs, many 200 to 250 feet in height.

"They must be very old," I remarked.

"They are. That especially tall one is estimated to be over 500 years. It was a very respectable tree when Columbus discovered America."

"How did you find this wonderful place?" and as we walked along he told us, while Mrs. Crissey pointed out new beauty of scene or plantings, for the wild beauty has been preserved and enhanced by liberal planting of native material.

"As an office man engaged in advertising work, I came upon my farm one Sunday when horseback riding, and was so impressed with its unique scenic location that I bought the place the next day, though I had not the slightest idea of buying anything and had to rustle for the necessary funds after I had made the purchase. 'Gladiolus Farm,' as I named it, and I have the name copyrighted, is a natural table land of forty acres with a steep bluff on three sides to the Sandy River two hundred and fifty feet below. This river is fifty miles in length, its source in the glaciers of Mt. Hood and it falls five thousand feet in the fifty miles with a roar like ocean surf. At the base of the bluff is an electric railway station, and in front of the house a fine road directly to Portland twenty-five miles distant."

Here Mrs. Crissey called our attention to some of the Laburnum trees over one hundred of these having been naturalized in the woods. These with drooping racemes of flowers like yellow wistaria are peculiarly beautiful in contrast with glossy evergreen foliage of the English Laurel, also the brillant leaves of the Oregon Grape another evergreen and growing almost everywhere.

There were plantings of the Wild Currant, which in Oregon, is a beautiful cherry-red flower, and the wild Philadelphus—the Mock Orange of eastern gardens—in many numbers. The wild Spirea Arifolia is a noble native shrub and Hazelnut bushes fifteen feet high seemed to be the rule.

Gladiolus—*Rouge Torch* in pale green bowl, showing good arrangement and harmony of color.

A picturesque winding "trail" to the railroad station shows one spot a solid bank of Maidenhair Fern covering a couple of hundred square feet. Huge Ferns like the Boston are native everywhere and fascinating little mosses and many wild flowers, including Foxglove, Ginger Root, wild Larkspur and Trilliums. The bluff near the house is a mass of Scotch Broom, a perfect blaze of yellow through the spring and a cheerful green throughout the winter. Blooming with it is lavender Iris in lovely contrast, and nearby against the green background of the Broom is another planting promising much. This is Anchusa Italica (Dropmore) in combination with Gypsophila *Paniculata*, with liberal sprinkling of soft pink Poppies—intense blue, filmy white and pale pink. For fall there are clumps of the lovely Japanese Anemone in silvery pink.

Much attention has been paid to opening up vistas from the farm, through the judicious cutting of trees and shrubs, the idea being a series of varying pictures, each different, each with the charm of the unexpected. "Climax Point" commands a view of the confluence of the Bull Run and Sandy Rivers, a tiny waterfall from the adjacent hillside adding its share to the beauty. The natural beauty of the place was self suggestive of the fact that it would be an unequalled setting for flowers, and Mr. Crissey wisely chose the Gladiolus for his specialty because the bulbs grow so well, and possess a color range found in no other flower.

Adjacent to the farm is a natural park owned by the city of Portland, with fine bathing and camping facilities, such as stone cooking ovens, mountain water piped to each. Being only an hour's drive from the city, people make the trip at week end, and Sunday is an extremely busy day at Gladiolus Farm. An informal exhibit of flowers artistically arranged is held each week during the flower season. Artistic arrangements in suitable receptacles, with harmonious color schemes are matters he emphasizes in offering flowers and often gives individual exhibits in Portland and other places each year. One particularly good one had the exhibition room draped in black and the flowers seemed to stand out like jewels against the sombre color.

He issues a small but interesting catalogue, the unusual and high class varieties being featured, rather than the old stand-bys of the florist, and trade is drawn from all over the country through modest national advertising. A collection of Irises has recently been added to the farm and will be offered through the catalogue in a year or two, and so will something else that I saw growing in his garden. We had been looking at the soil, which is a shot loam, naturally drained and so friable that there is never mud, and came upon plants of such unusual color and brilliancy that I prophesy a future for it. This is English Rose Kale, a very decorative plant, each a bouquet of beauty. I was told that the matter-of-fact grocer was greatly impressed when told it could be eaten. If Mr. H. C. L. continues to hold the seat at the head of the table, we may decorate it with English Rose Kale and eat it for dessert. A revised case of "Eat your cake and have it." *Speed the Rose Kale.*

Like all good Gladiolus growers he has the "seedling bug" and has a couple of choice pets that will be introduced when he has stock enough.

Mrs. Crissey joins him in regarding Gladiolus growing the most fascinating game in the world. Ten year old Jim knows every flower, and Father and Mother Crissey are as actively interested as if their ages totaled a half century instead of a century and a half.

By the light of a candle we prepared for our night's rest up under the roof. I hoped it would rain that we might hear the patter of the drops, but instead, we were lulled to sleep by the muffled roar of the river.

MRS. A. H. AUSTIN.

THE PEONY

Mrs. Pleas Replies to "Peony Grower."

Inheriting a love of the beautiful in Nature I must in self justification admit that in growing Peonies not only for my own pleasure, but for that of others instead of profit, with no desire to corner the market, I wish to see other gardens as beautiful as my own, preferring to give my surplus plants away rather than destroy them. "Since God so loved flowers as to sow them all over the earth whether or not they were seen by man," may I not scatter them over my little world to gladden the hearts and brighten the homes of others as they have my own?

When C. A. Clark, unable to find Peony seeds on the market asks "where to secure them,' and "why they are not advertised," I might have replied, "There is practically no market, nor seeds for sale." The florists would answer you as they did me. "There is no money in it, and I am in it for the profits." Instead, I was glad to assist. Having grown the old double kinds most of my life, never caring to use their scant crop of dwarfed seeds, nor hearing of others doing so, having myself planted seeds of the single white only with phenomenal success, and knowing that a florist here and there had one or two single kinds, with no market for the seeds at any price, having personally supplied the only market I had been able to find in all these years, I confidently informed him where seeds may be had.

"Peony Grower" says: "No one now thinks of using any but the best for the mothers of the future seedlings." There being no intimation that they were desired for mothers, and since a professional would have known, it was presumed they were for the embellishment and pleasure of the home garden where they are unrivalled for brilliancy and decorative purposes.

Having always enjoyed conducting all visitors through my own garden, same as the florists did me, to see, enjoy and select kinds I wished, it never occurred to me to stipulate that you ask to gather the seeds, I fancy you would feel a little abashed gathering them without. It were better perhaps to ask the price, when nine times out of ten, no doubt you would be made welcome to "all you care for." Had I pollenized seeds, and feared their being pilfered, I should enclose them in netting and label, "For Self."

Theoretically I too recommend using seeds from best kinds, but with my having produced blooms from my one planting of but little over 1000 seeds of the single white that rival the best in America, if not in the world, I feel justified in recommending them to other amateurs.

I maintain that giving flowers away does not "injure the florists' business." The love of flowers is not only contagious, it soon becomes an epidemic, the fever running higher with each blooming season. Unlike feeding the hungry whose appetite soon becomes satisfied, no matter how appetizing the food, whilst the love of the beautiful is but stimulated by indulgence. The more we get, the more we want.

SARAH A. PLEAS.

Vitality of Peony Pollen.

Practical facts and information are not as plentiful as they should be in connection with flower growing, and we are, therefore, glad to know that Prof. A. P. Saunders has in his experiments demonstrated that Peony pollen under favorable conditions may be considered fairly long lived. Professor Saunders found no difficulty in keeping it through the entire Peony blooming season, thus making it possible to cross the earliest varieties with the latest varieties.

For proper storage Peony pollen is placed in small glass tubes carefully sealed and kept in a dark and cool room. Under these conditions it has been found to retain its vitality during the blooming season as stated.

This information will prove interesting to those who are not acquainted with the longevity of Peony pollen and to those who are undertaking the hybridizing of Peonies for the first time. As before stated it is not often that such information is available. We have no doubt but what other information on the vitality of pollen from other flowers will be available in due time.

Mrs. Pleas on Disbudding Peonies..

Talk to me of disbudding! It's worse than sacrificing more than one-half the beauty; it's a sacrilege, and should be punished by disowning the florists who practice it—so, there! If you practice the barbarous system, please, for me, next year, leave two plants of same kind, side by side, disbudding one and *not* the other and report to me just the difference in bloom.

For my own use I would not disbud if it made them one-half larger. It is all right when working for a prize to be able to show the abnormal monstrocities, but I prefer the more graceful and the greater variety of sizes on one stem—the largest, the smallest and those intermingled with yellow stamens. I doubt if one person in a hundred if given choice of a single bloom or cluster at its best, would choose the one. All would choose the armful on one stem. I shall always preach the gospel of the natural clustered Peony. Rose and pink, why, the buds are fully as beautiful as the full blown flower. Why not have all and save time and expense and base selling price by the number of fullblown any way? That was my practice and all were satisfied. SARAH A. PLEAS.

Some Wild Marsh Plants.[*]

By Katherine E. Koch, in *Landscape Architecture.*

Along any lake-shore, the wet places are hard to drain. In such a situation, therefore, one should not endeavor to make the natural water-loving growth over, but to change it a little here and there by adding to existing forms, and perhaps by taking out some to make room for others, in order to make the spacing more agreeable, and to give variety and interest to the composition. Individual specimens may be used, because of their peculiar form, color, or foliage, to enhance such a situation; or groups of plants, for the same reasons, may be used effectively. The following studies were made at the Biological Field Station of Cornell University, at the Renwick Marsh, in the spring, summer and fall of 1915.

Acorus Calamus. SWEET FLAG.

This is an aquatic that grows along the margins of streams. It is an erect herb, with sword-shaped leaves, from 2 to 6 feet tall. The blossom is a spadix, with minute greenish flowers.

The plant is propagated by means of seeds. The rootstocks are very aromatic and furnish the drug calamus.

It is of use in a landscape to form a background for lower-growing forms along the water's edge. The foliage is an olive-green which is noticeably different from the green of Sedge and Cat-tails. Also, it holds its deep green color longer than the surrounding mead-covering forms—of those observed, only Iris kept its green longer. It can be detected in any mass of plant-growth by its delicious odor.

Hibiscus moscheutos. MARSH MALLOW.

This is a plant occurring in the drier parts of a marsh. It grows from 4 to 6 feet high. The large, ovate leaves have long petioles. The leaves are whitish, pubescent on the under side, and are light green and smooth on the upper surface. The showy blossoms may be 7 or 8 inches broad, and either pink or white. There is a succession of bloom as the many buds at the apex of the stalk develop.

Marsh Mallow is propagated by seeds, but the plants do not blossom the first year unless the seed is planted early.

Marsh Mallow has its natural limitations. Unless the surrounding vegetation is cut away, it is overtopped and suppressed because of the late start that is made each season.

Iris pseudacorus. YELLOW IRIS.

This is peculiarly a marsh Iris. The plant grows 2 to 3 feet high. The linear, sword-shaped leaves are a rich green. The plant has thick, creeping, horizontal rootstocks. The flowers are a beautiful, clear bright yellow. The flattened, brownish, disk-like seeds germinate the last of May and in June, and at this time may be seen floating about on the surface of the water.

The Iris has an intrinsic value in its foliage, in both form and color. The stiff, straight leaves are pale green and glaucous. They are always conspicuous and attractive.

Iris versicolor. BLUE IRIS.

This Iris grows in drier situations, and flowers later than the yellow Iris. While the latter grows out in the water, the blue Iris prefers the banks where its roots are not submerged, and the leaves are erect and shorter than the flower-stalk, growing from 1 to 2 feet high. It, too, has thick fleshy horizontal rootstocks covered with fibrous roots.

Nuphar advena. SPATTERDOCK.

This plant has floating and submerged leaves. The former are exposed when the water recedes, showing erect thick leaves on stout petioles. The yellow flowers, tinged with purple, are always attractive, and the color harmonizes with the rich green of the foliage. The plant has thick horizontal rootstocks. These creep in the soil in such a way as to make it quite difficult to dig the plant out of the water.

This plant should be massed at the water's edge as a background for the white Water-lily. The leaves of Spatterdock are liable to be destroyed by the larvae of the Galerucella beetle.

Nymphaea odorata. WHITE WATER-LILY.

This is a common native aquatic. The entire circular leaves are often crimson on the lower surface. The rootstocks are stout and creeping. The showy, white, sweet-scented flowers occur from June to September. The fruit is globose and ripens under water.

Water-lilies are propagated by division, or by seeds.

Peltandra virginica. ARROW ARUM.

Arrow Arum is a marsh herb with arrow-shaped leaves on long petioles, growing 2 to 3 feet high. The roots are long, coarse fibers. The clusters of pale yellow flowers, staminate above and pistillate below, occur in the form of a spadix surrounded by a spathe.

The flower of Arrow Arum is interesting in its development. When the full growth is reached, the spathe opens up, then can be seen its very delicate greenish yellow crinkled edges, back of which the spadix, which is shorter than the spathe and is protected by it, is exposed to view. It, too, is a delicate greenish yellow color. The spathe turns brown during the process of fertilization, which occurs under water. Then the spathe closes up tight and fruit begins to develop. The seeds germinate readily. The seedlings then float about on the surface of the water until they can attach themselves so that the plant becomes stationary, when the roots develop and the plant grows. Arrow Arum may be propagated be transplanting; or, if seeds are used, they should be germinated where they will not be blown or washed away.

Arrow Arum is found intimately associated with Arrowhead, and may be mistaken for the latter; but the foliage of Arrow Arum is more profuse, in denser masses, has larger leaves, and is a richer green. While the leaves of Arrow Arum are pinnately parallel-veined, those of Arrowhead have palmately parallel venation.

This plant certainly has its place in the water-garden. The flowers produce no effect in mass, and are inconspicuous on the individual plant except when full-grown and the spathe peeps out. The value of the plant lies in its rich foliage, which makes it effective planted singly or in mass.

Scirpus fluviatilis. FLOOD-PLAIN BULRUSH.

This is a sedge almost invariably associated with Cat-tail. It, too, is one of the dominant forms—tall, upright, slender and unbranched. The broadly linear leaves taper gradually to a point. The margin of the leaves is often so sharp that when walking through a patch of plants, one feels the cutting edge of the leaves. The flowers are in the axils of the bracts at the top of the stem. They are not showy, yet are quite attractive when the long yellow stamens are conspicuous.

The tubers before they sprout are black, rough and very hard. In a Bulrush colony these tubers mat together so closely that they can easily be felt as one walks over the irregular surface of the ground.

Bulrush prefers a drier situation than Cat-tail, yet it stands the vicissitudes of getting wet and then drying the best of any of the aquatics. It follows Cat-tail in encroaching upon other forms.

The flood-plain Bulrush is not especially desirable in a planted water-garden. It has a place in large areas. When considerable stretches are grown simply for mead-cover, interesting color effect is produced. The long narrow leaves form a somewhat flat-topped cluster which is gray-green and quite lustrous.

Typha. CAT-TAILS.

This is perhaps the most aggressive of the mead-covering forms. Two species occur at Renwick: *Typha latifolia*, the broad-leaved type, and T. *angustifolia*, the narrow-leaved form. In T. *angustifolia* the staminate and pistillate flowers are separated by a short stem; in T. *latifolia* both flowers meet. Typha has fibrous roots and strong creeping rootstocks. The leaves are linear, flat, and sheathing at the base. The flowers form a terminal spike. The growth is rapid and the plants mature early. The fruit ripens in August.

Because of the vigorous creeping stems that grow out from the parent plants along the surface of the water, a floating mat that grows out into the water is often formed. For this reason, and because it encroaches upon other forms, crowding them out, Typha is not wholly satisfactory foraquatic planting except to cover large stretches of water. In any case, one may have to use methods of control; the plants may be kept in bounds by cutting under water and pulling out at the edges.

Because of its characteristic tall, slender, upright and unbranched stem, Typha easily bends to the breezes and elastically recovers. This waving of the Cat-tail with the breezes is so a part of an aquatic environment that the absence of this in the landscape would make a water-planting incomplete.

Zizania aquatica. WILD RICE.

This plant blossoms in June, along the margins of streams. The large, loose, handsome, panicled yellow blossoms tower up above the green foliage of the surrounding plants. Groups of plants, and even a single plant, give an atmosphere of stateliness. Where contrast is desired, this can be very advantageously used. However, the blossom is not long-lived—two weeks at the most. Wild rice is an annual, and when it does not self-sow it needs to be replenished every spring.

A study for spring effect would not be complete if the background trees of the marshes were not considered; especially the willows scattered about. They add another shade of green that is very much enhanced by the effect of atmosphere and distance. In fact, the effect of sky and atmosphere over a marsh with its wonderful green vegetation is fascinating, the panoramic changes are so subtile and the color compositions so rich and varying.

A marsh, during the summer, is a quiet green. At this time the vegetation has reached its prime in foliage growth. Little change in greens takes place. The charm of a summer landscape is in the color produced by the succession of bloom of the marsh inhabitants.

Early fall on a marsh is a time of transition. Then the greens are gradually changing into brown. Typhas begin to change at the tips, and this discoloration works down-

[Continued on page 115.]

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[*] Extracts from the article by above title in *Landscape Architecture* of July 1916. The original was nicely illustrated.

Queries and Answers Department.

"All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication."

Various Gladiolus Questions.

To the Editor:—

I am an enthusiastic amateur Gladiolus grower. For two years I've suffered from an incurable attack of "Gladiolitis." I grow them for my own pleasure only, and not as a commercial enterprise. Like all amateurs, I am an "interrogation point" when I get a chance to talk with an experienced grower, and I ask him all sorts of questions. I find, however, that I imbibe freely of information more or less contradictory, and have followed some advice that gave anything but satisfactory results.

If I undertake to winter over cormels in moist sand, they get moldy and spoil. The operation of peeling before planting is a tedious process, but I find that most of the cormels treated in this way will grow. How can any person who plants thousands of these tiny cormels find the time, or stand the expense of peeling? Will *dry* sand keep the bulblets over winter without the shells becoming too hard for planting with any hope of success?

How deep should seed be planted, and what are the general conditions to be met, if seeds are to germinate and develop properly? I plant my bulbs in double rows six inches apart, the bulbs four inches apart in the row, each double row thus planted two feet apart, and the bulbs six inches below the surface. Is this a good method for planting for bulbs of blooming size? Results from this method were fairly satisfactory the past season, but I want to get the best blooms possible, also good planting stock for next season.

My soil is a sandy loam, planted to corn last year, spaded eight inches deep in the Spring, and broadcasted with a good grade of commercial fertilizer at the rate of one ton per acre. I water freely, if not sufficient rainfall, after leaves are 12 to 18 inches high, also apply liquid fertilizer when flower spikes begin to show. Now if you think this worth a reply or a place in the columns of the Flower Grower will you freely criticise my methods. I am seeking after information, the intelligent use of which will insure the best results possible.

I read enthusiastically each and every issue of your valuable paper, and I sometimes wish it were a daily instead of a monthly publication. I also wish some of your contributors could give, such as myself, more information upon proper methods of culture for this wonderful flower. I do not ask for "trade secrets," but general ideas from those whose skill, patience, and experience, have made it possible for this flower to attain such wide popularity and appreciation.

A. F. R.

Answer:—Cormels stored in moist sand do best, but probably the reason why your cormels mold and spoil is that they are put into sand which possibly is too wet or perhaps the cormels are rather green when mixed with the sand. We have found that if cormels are separated from the corms at digging time, that it is best to use dry sand at first. This will allow the cormels to cure out moderately without molding, and after they are somewhat cured they can be stored in sand which is a little damp, but not wet.

Of course, it is not practicable for anyone to peel bulblets on any considerable scale. This is only resorted to in small quantities to increase rare or valuable varieties. Fairly good results may be had with most varieties, by keeping them moist for a month or two before planting, and better results may be had by soaking in warm water for twelve to twenty-four hours before planting.

Gladiolus seed should be planted to a depth of not more than one inch, and preferably about three-quarters of an inch deep. They may be planted even as shallow as a half inch. They may be planted in drills or broadcast, but preferably in drills as it is much easier to cultivate. They should be covered with pieces of old carpet, bagging or boards until they germinate. Bagging is preferable as it gives some ventilation and you can easily tell when the seed germinates. When the weather is hot and dry it is absolutely necessary to keep the surface of the ground moist to insure germination. After the seedlings are up an inch or two the covering should be removed. It is advisable to sow rather thickly as the sprouts together push their way through the soil more readily.

Your method of planting bulbs is essentially correct, but we do not recommend that the small sizes of corms should be planted as deep as six inches. It is only the larger ones that should be planted as deep as this. Three to four inches is plenty deep enough for the smaller sizes. First size corms may be planted five to six inches deep. In a sandy soil we would plant an inch deeper than in a rather hard soil.

In planting to a depth of six inches we would recommend that the ground be spaded to a depth of ten inches as this gives a bed of pulverized soil below the roots, and the fertility of the soil is worked down to the proper depth.

In watering would recommend a very heavy application of water at long intervals rather than frequent watering at shorter intervals.

The files of The Flower Grower and The Modern Gladiolus Grower contain some very valuable information on the growing of Gladioli, from seedlings to cut flowers; and this information covers also the handling and cultural methods for various soils. It must be understood that any instructions of this kind are difficult to apply exactly to any particular garden, as it depends on the previous condition of the ground just what should be done with it. Many amateur gardeners expect to gain information about cultural methods from reading which can only be gained by experience. Reading is largely to give correct theories and compare experiences, and one must have the experience in order to get the most out of the reading, and this we believe applies to most any line of work as well as to flower growing.

There are, we believe, very few "trade secrets," so called. Occasionally a man may be found who thinks he has some secret method. Why he thinks so is because he is not well posted nor does he know what others are doing in the same line. Usually when the facts are known his "trade secret" is no secret at all, but perhaps a theory or method which has been tried and been found wanting and superseded by better methods.

Madison Cooper.

Fragrance in Gladioli.

To the Editor:—

Will you please answer the question as to whether any of the Gladioli in common cultivation are fragrant, and if so, which ones? H. L. C.

Answer:—So far as known none of the Gladiolus hybrids in cultivation are fragrant, and also so far as known none of the Gladiolus species which have been used for hybridizing show fragrance. While fragrance is looked for in flowers by many, and this may by some be considered one of the weak features of the Gladiolus, yet fragrance in flowers is objected to by many, and possibly we should say that lack of fragrance in the Gladiolus does not in any way detract from it as a flower.

A subscriber wants information about Tulips, which come "blind." His trouble is with Darwins one to ten years set, and he states that the difficulty is as much with those recently set as with the old ones. Will be glad to hear from any of our readers who can offer helpful suggestions.

The Glad Philosopher's Musings.

Fads and hobbies cannot be over-valued, and for the intense worker are indispensable. Walter L. Pyle, authority on hygiene, says: "Fads constitute a mental antitoxin to the poison generated by cerebral overactivity." The young and the old, the active and the inactive, all need the balancing effect of a well-chosen hobby. What a sad prospect is the oncoming of old age to the person who has nothing to interest the mind, or keep the body active or the fingers nimble.

Some years ago, the celebrated Jewish rabbi, J. Leonard Levy, a distinguished orator, noted for his broadness of mind and knowledge of human nature, said: "In the happy days of a well-occupied youth or early manhood, every one of us should develop a hobby of some character which will help and never harm. Let it be the care of flowers, the collection of winged insects, the gathering of stones and rocks, the raising of domestic pets; let it be what you will, so long as it is innocent and clean, but the habit of having some hobby should be developed at all costs."

The ideal hobby is antithetical in its nature to one's everyday work, so as to be thoroughly restful. Persons of sedentary habit, and especially those who suffer from "nerves" would do well to adopt for a hobby some wholesome, recreative out-of-doors occupation, than which none excels gardening for those whose inclinations turn that way. And so, as an experienced hobbyist—one who has a hobby of having hobbies—who through a good, long term of years has tackled about every known fad and hobby, the Glad Philosopher vouches for Dr. Levy's wisdom in placing the care of garden flowers first in his list of desirable hobbies worthy of adoption.

Those of us who have hobbies like to have others show an interest in them. Many a lasting friendship has resulted from a casual acquaintance beginning through common interest in some fad or hobby.

A friend of mine, a gifted violinist, was a salesman of railway supplies. He had called repeatedly to see a certain official who always received him but refused to give him a chance to demonstrate the quality of the goods he was selling. One day he called, and happening to spy a violin case on the top of the desk, asked the official if he played the "fiddle." He replied, "A little, do you?" My friend confessed that he did, and asked if he might examine the instrument. Taking it up, he began playing, when the railroad official's expression betrayed immediate interest and amazement. The result was that my friend was kept busy playing for over an hour, and a friendship sprang up that resulted in a business deal that proved advantageous to both.

The most successful physician I ever knew conversed freely with his patients before and during his examinations. In this conversation he usually manifested an interest in their affairs and especially in their fads or hobbies if they had any. His patients used to say that his visits always did them as much good as his medicine.

The late Napoleon Saroney, New York's most noted photographer of celebrities, once related his difficulty in getting Grover Cleveland to assume a natural pose when sitting for his photograph. Remembering his favorite hobby, Saroney arranged his camera and engaged the President in conversation on the subject of trout fishing. His self-conscious expression at once vanished, and just as he was arriving at the climax of one of his fishing experiences Saroney pressed the bulb and secured one of the likenesses that helped to make his fame.

There are good and logical reasons for encouraging the natural tendencies that children have for taking up hobbies, such as the collecting of postage stamps, the raising of pets, etc. They sharpen the wits, develop the power of concentration and have educational value far beyond common belief. Best of all, they keep the child busy, and you know it is the idle hands that Satan finds most mischief for.

THE GLAD PHILOSOPHER.

Some Wild Marsh Plants.

[Concluded from page 113.]

ward. The peculiar twisting of the upper part of the leaves, almost at right angles, is characteristic. The brown erect fruit-stalk is still prominent.

The late fall is a study in browns. The purple-brown of the Typhas has become a lighter straw-brown, except where the erect dark brown fruit projects. The tops of Acorus become touched by the frost, and the deep brown of these blends well with the light straw-brown of Leersia. The lowest parts of Acorus foliage are still olive-green and these with masses of Lemna form an interesting edging along the stream. Scirpus can still be distinguished from Typha by the more golden brown of the masses. Iris begins to show frost effects. The clumps are streaked with brown. In fact, all marsh vegetation shows signs of autumnal brown.

In winter, on the marsh one may obtain two characteristic effects: either that of stretches of white snow with the tops of taller-growing forms outlined against it, or a study in browns, when no snow is on the ground.

In the winter, stretches of Scirpus may still be distinguished from Typha. The former is a more golden brown. Hibiscus Moscheutos is conspicuous by its brown seed-clusters on tall, straight stems. Typha still persists. All the plants that grow along the water's edge become quite indistinguishable as to form, but they take on a deep brown color. *Iris Pseudacorus*, however, does not lose all its green leaves until the winter is well under way.

The American Iris Society is undertaking a most commendable work in endeavoring to eliminate among the enormous number of varieties, those of least merit. All interested should assist.

Two Ways with Water Lilies.

Planting.—The end of April, or the first week in May in backward localities, is the most suitable time for this work. The temperature of the water is then beginning to rise and growth is distinctly on the move. The first thing is to secure some suitable baskets in which to plant them. I have found the most suitable are what are known in the trade as "nursery rounds." These will average about 9 inches or 10 inches in depth and be of various widths. Those 2 feet in diameter may be chosen for the smaller or medium-sized crowns, those 3 feet for the larger ones, and for the strongest and most vigorous plants baskets up to 4 feet in diameter may be used with advantage.

Soil.—I find nothing to equal the following preparation: In the basket first place some well-decayed leaves collected last autumn and as taken from the heap. Cover the bottom of the basket with these to keep the soil from working through, say, to about one-third of the depth of the basket. Then take some good turfy loam, roughly broken to pieces, covering this over the leaves, which will thus be pressed down. Upon this place some similar but finer soil, with a sprinkling of bone-meal. Plant the crowns on this so that the surface of each crown just shows. Spread out the roots in all directions and cover with similar soil, allowing from 2 inches to 3 inches of soil over the roots. This should bring the surface slightly above the top of the basket. Then take some coarse, tarred string and lace it across the basket so that the crowns are quite secure against floating. If some clean, coarse gravel is available scatter some of this on the surface so as to keep down any soil that may be sufficiently light to float. The soil should be made fairly firm.

After-treatment.—As soon as the planting is completed put the baskets into the water. There are various ways of doing this. Assuming that the water has been lowered so as to more conveniently attend to the work, it is an easy matter to place them where it is deemed advisable. Then for the time being, and until the water has again risen sufficiently to cover the crowns, let them be shaded with old mats, which should be kept always moist, removing them when no longer needed. If the water has not been lowered it is possible to place them in position by either pushing them out with long, stiff poles, or, what is better still, by cords, if the opposite bank is not too far away for the cord to be used on the other side.

Division of crowns.—In some ponds or lakes, where the water is congenial to their well-being, and the pond mud present in sufficient depth, the growth will, in a few years, be over-vigorous in the case of the more robust varieties. This is more apparent when the depth of water is not sufficient to float the leaves of such as these well away from the crowns. The remedy is to lower the water and divide the crowns, then replace them, but in deeper water if possible. In doing this, select promising growing pieces rather than the very largest. Even in the first season there will be a good display of flowers where for a year or two past it has been rather a mass of leafage that forces itself well up out of the water, with many flowers hidden underneath. In doing this work it will not be advisable to put back into the same space or spot more than one-fourth, or at the most one-third of the quantity taken out. These strong crowns, will have rooted deeply into the mud, and be found rather difficult to lift. With two or three digging forks and a manure drag it will be possible to move them.

The choicer kinds that do not grow quite so luxuriantly will at times need division, or perhaps a larger basket, for their well-being. Assuming such to be the case two or three years after planting, it is an easy matter to do this. With the same tools they can be brought to the edge and attended to. Some may need division, others may not, but larger baskets will very likely be required. If divided it will be possible to increase the stock and put them back, either in baskets of the same size or, say, two or three in larger baskets. Spread the roots out and use soil as advised above. With new additions to the stock it is possible they will be somewhat small, but none the worse for that if healthy. Use the smaller baskets for these, and do not place them for the first season or two into too great a depth of water—say, about 1 foot over the crowns. By keeping these in shallow water it will be possible to watch their progress more easily.

Other work.—In growing Water Lilies do not use any farmyard or stable manure, as it may cause disease and is not in any sense an advantage.—JAMES HUDSON, in *Country Life.*

This is a very good article by Mr. Hudson, of Gunnersbury House who grows Water Lilies admirably, but it is well to know there are alternative ways that are also good. His plan is excellent for shallow water that can be easily cleaned out and the plants attended to in all ways, but in our land there are many natural waters in which these beautiful hardy Water Lilies do better than in any shallow water, and also with better effect, as the flowers are not crowded over the whole surface.

In all ponds or lakes fed by natural streams out of woods and hollows there is usually much silt washed in, which I think is the best food for the Water Lily. I acted on that belief when I began, many years ago, to plant Water Lilies. Mixtures of loam and other things may do very well for those who plant in cement or shallow ponds, but one gets a better result from the natural mud of the pond. Some kinds, put in more than twenty years ago, have never gone back, and the difficulty is to thin them out and transplant.

As to placing the roots, the way described by Mr. Hudson is excellent generally, but with the kinds that are not very rare I simply throw the root or rhizome into the water weighted with a bit of old iron or a brick attached, which finds its way to the bottom and gives the plant its start in life. From some kinds I planted in that way I could gather 100 flowers. In the case of new or rare kinds I use a basket, but the best way is to plant them in small tanks until they get size. The pond is 12 feet or more deep in the middle, and that prevents overcrowding or spreading all over the surface, which is a great gain both for effect and in all ways.

Success depends much on the absence of vermin — water-rats and the common water-hen. The water-rat lives on the flowers and cuts them off in dozens, and the water-hen disfigures them. I destroy them both, but there is such a stock of them in the woods around that their numbers never seem to be lessened much. W. R. in *Gardening Illustrated.* (English)

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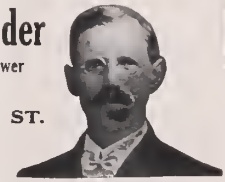

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THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

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Origin of Tall Bearded Irises.

[*Written expressly for The Flower Grower*]

BY WALTER STAGER, (Illinois.)

THE NAME "German Irises" has been given to a group of species of the bearded Irises, and it came about in this way:

Linnaeus, the Swedish naturalist, regarded as the father of modern botany, in considering the subject of botanical nomenclature settled upon the plan of giving each known plant two names: a genus-name consisting of a single word, and a species name consisting of a single word expressing some obvious character of the species. In 1753 he issued his Species Plantarum, and in it, for one form of the genus Iris, he adopted the name "Iris Germanica"- founding the species of that name—with the remark that it is an inhabitant of Germany. The descriptive text is: "*Iris corrolis barbatis, caule folius longiore multifloro.*"* In this species the beard is confined to the midrib of the falls. In time this bearded Iris came to be regarded as the type of a group of species of tall, bearded Irises—tall as compared with the pumilae and other dwarf species—in which the beard is confined to the midrib, and so the name "German," derived from the name of the species named "germanica," was applied to the group.

"German," as applied to the so-called group of Irises, is a misnomer. No species included in the group has ever been known to be native to Germany —not even any of the varieties of the species botanically called "germanica."

Of late, especially in the United States, there has been a growing inclination to substitute some other name for this group. "Germanica" will probably be retained as the name of the species so named by Linnaeus, for strictly botanical names are seldom changed—certainly not for merely sentimental reasons. For the retention of "German," however, as applied to the group, there seems to be less reason, especially in view of the number of species included in the group, and the names being inaccurate and misleading as to each of them.

IRIS—*ZUA.*

One of the distinctive prize winners at the last show of the Northwestern Peony and Iris Society. It is described as very early, of a pure lavender color, and with falls and standards like heavy frosted crepe. It is very fragrant, and of rather dwarf habit, and it is inclined to bloom from the ground up.

As the beard of Iris germanica is the principal characteristic that causes this species to be regarded as the type of tall bearded species similarly bearded, "Tall Bearded Irises" seems to be an appropriate substitute for "German Irises," especially as it conforms to Linnaeus' plan of naming plants—adopting a name expressing an obvious characteristic.

There is a specimen in Linnaeus' herbarium, which is now in the possession of the Linnaean Society, in London, labelled "Iris Germanica," but neither it—the label having been written by Linneaus' son—nor his description of "Iris Germanica," in his Species Plantarum, is sufficient to enable one to identify any one of the varieties now generally listed, by plantsmen, in the division "Iris Germanica," as the type of the species founded by Linnaeus.*

The common blue form is probably the one that has been taken, by modern monographers, as the type of the germanica division.

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* Iris with bearded little crown, and with many-flowered stem longer than the leaves.

* This information received through courtesy of Dr. L. H. Bailey, Professor at Cornell University.

THE DAHLIA

Luck With Dahlias.

Mrs. A. R. Reinking, in *Wisconsin Horticulture.*

THE DAHLIA is a native of Mexico and South America where it can be found today. In its wild state it is a single flower of red, yellow, or purple, small but brilliant though rather insignificant. From this humble little flower the most gorgeous and remarkable group of flowers has been developed. Every color and shade and every imaginable combination of colors except blue is to be seen in this lovely flower— there is even a green Dahlia, a decided novelty but not a beauty.

The Dahlia varies in size from an inch to a foot in diameter and takes on more forms than any other flower resembling the Cosmos, Daisy, Poinsettia, Clematis, Anemone, Zinnia, Aster, Water-Lily, Cactus, Peony and Chrysanthemum.

The first introduction of the Dahlia into Europe was in 1789 when the director of the Mexican Botanical Gardens sent some seeds to the director of the Royal Gardens at Madrid. This director was so pleased with the brilliant flowers the seeds produced he named them Dahlia in honor of a noted Swedish botanist, Andreas Dahl.

Most of the new forms of the Dahlia are productions of England, France, Germany, and Holland. America contributed the Giant Singles or Century Dahlias and American gardens have added many noteworthy Dahlias of all types.

Probably there is no other flower that is grown so extensively for commercial purposes as the Dahlia for there are many farms of 40 to 75 acres and several of hundreds of acres that grow them exclusively.

So often one hears another say, "O yes, I like Dahlias but I don't have any luck with them, I can't make them blossom." Now luck with Dahlias is the same as with anything else, they must be understood and handled just about right. Dahlia raising is a fascinating hobby, they do well in almost any soil. Soil that will grow potatoes will grow Dahlias equally well, provided they have a great amount of sunshine.

Perhaps the first reason for poor luck is that many people plant them too early—they try to get blossoms before their neighbors and unless it is an unusually moist season they generally fail to get any. The reason being that flowers are borne on soft, rapidly growing stems and during the hot, dry spell in July and August when the buds are formed and the plant is about ready to blossom the growth is checked, the stems become woody and the buds blighted. From the last of May to the middle of June is the best time in this climate, indeed we have planted as late as July 1st and produced an abundance of fine blooms.

Prepare the Dahlia bed by spading deeply. Avoid an excessive use of fertilizer as it tends to produce much foliage and few flowers. If the ground is too heavy a little sand or sifted coal ashes will lighten and improve it. A good time to fertilize is after the first buds appear. In planting dig a hole six inches deep, lay the root on its side and cover with about two inches of earth. Fill in the remainder of the hole, in cultivating as the plants grow. In doing this the roots have been planted deep enough to give the plant support in time of storm and deep enough to guard against an ordinary drouth. Avoid water unless it is done thoroughly, superficial watering tends to bring the rootlets to the surface where they are readily dried out.

During the growing season the ground should be cultivated about once a week and as soon after a rain as it can be worked. Cultivate shallow after the buds begin to appear so that the rootlets may not be injured.

Another reason for "poor luck" is that Dahlias are often planted just as they were dug in the fall. One would not think of planting a dozen potatoes in one hill and for the same reason a whole clump of Dahlias should not be planted in one hill. Be sure to divide the clumps so that there is at least one good, strong eye to each division and do not allow more than two stalks to develop from each hill—better still, only one.

To get the best flowers it is well to disbud. As a rule three flower buds appear in a cluster, the center one being the larger but not always the best, save the best one and pick off the others. The plants will produce more and larger flowers if the blossoms are kept picked and not allowed to wither and go to seed.

After a killing frost cut off the tops and it is well to allow the bulbs to cure for a few days. Then on a bright day lift them out carefully, leave a little dirt on the crown to prevent the bulbs breaking off and dry in the sun for an hour or two. A good way to store them is by packing in boxes or barrels that have been lined with paper, place the clumps with the stems down to allow any moisture to drain out. Place boxes in a frost proof cellar but away from furnace heat and the roots will undoubtedly be in first class condition in the spring.

July, 1920, bulletin of the American Dahlia Society is to hand. Complete prize list of next annual exhibition of the Society to be held in New York in September is given with the usual helpful notes and articles on Dahlia growing.

OUR BIRDS

Planting to Attract Birds.

By Mrs. O. A. Runyon.

[*Written expressly for The Flower Grower.*]

In planning our garden it is always possible to plant trees and shrubs that furnish food and attract our native birds. These may be planted in odd corners, on steep banks, and among rocks, and in swampy places too wet to grow flowers.

The single flowered Althea fills the need of seeds for winter time. I have counted nineteen Cardinals feeding on one bush, a sight never to be forgotten. The mulberry, wild cherry, May cherry, hackberry, dog-wood, sassafras, privet, spice wood, wild rose, wild grape, bitter sweet, wild buckwheat, millet, Sunflowers and many other fruit and seed bearing trees and plants can be grown.

The black currant, red currant and black raspberry will attract many rare kinds of birds and are well worth the time and space they require.

The brilliant Blue bird has its nest in a hollow post planted for that purpose.

Several families of Warblers live in the shrubbery and are diligent workers all day long.

The Catbird cries his defense from the cherry tree, (have enough for all, yourself and birds, or else give all to the birds), or perched on the top of a post he pours forth his song.

The Scarlet Tanager makes a lovely moving picture as he flys in and out among the white flowers of the privet bush.

The Ground, Chipping, Song and white crowned Sparrows, all have their place in the living moving picture of my garden. They are always busy and sing sweet little songs pleasing to the ear.

I have noticed the Cuckoo with large hairy caterpillars feeding their young, and I don't see how it is possible for a young bird to swallow such a large morsel of food. The Cuckoo will get to be very gentle if it is not frightened in any way.

If you have Solomon's Seal growing, look carefully and you will find a ruby throated Humming bird's nest near, but put on a sun-bonnet or a broad hat as this tiny bird will make a flying dash at your eyes if it has a nest near.

The greatest foes of our native birds are the house cat and the black snake. The latter can be shot, and the former penned up in nesting season and well fed at other times and they will not do much damage to the bird family.

All feeding tables should be arranged so that cats cannot climb, by placing tin around the supporting posts.

I raise gourds for nesting places for Wrens and other small birds. Give them food and protection and they will repay you many times, not only from an aesthetic but economic point of view.

Quite apart from any question of sentiment, preservation of our bird life is of great national importance, and a lack of knowledge causes the destruction of valuable species.

Each one of us can aid the cause by loving and protecting our little policemen of the garden.

Wrens Vs. English Sparrows.

Among bird houses I have at my home, is one originally intended for Blue birds but occupied last year by Wrens.

When the Wrens returned this year and wanted their home, they found other birds were ahead of them. I knew the house was occupied and thought the Wrens would have to go house hunting; but one morning as I passed near the house, I saw English Sparrows on the ground picking up feathers, and, looking up, saw a Wren pulling from the house feathers and nesting material, and dropping them, while the Sparrows meekly picked them up. I can't tell where the Sparrows went but the Wrens are happy in the possession of their former home.

Mrs. E. M. Wilson.

The power exerted by vegetable growth is something almost unexplainable and not generally understood. Prof. Clark, of the Massachusetts Agricultural College has succeeded in measuring the power of the growth of a squash. This was done by placing the squash in a box in such a way that it could only grow upward, thus lifting a long lever with weights. The squash finally lifted 5000 lbs., at which it reached its limit when the weights cut into the rind of the squash.

THE GLADIOLUS

Gladiolus Cormels.

[*Written expressly for The Flower Grower.*]

Seeds of Gladioli and old bulbs are certainly interesting and merit the closest study, but surely also these wonderful little cormels. Probably the first thing a Gladiolus lover wants to know is how to make them grow. That is surely a vital question. Here are my observations:

When you remove, split, or tear the shell of a cormel, it will take about 30 days before the first tiny growth appears. But even so, some lie asleep in the ground, as if the idea of growing had never entered their heads. Three months after planting some plump *Purple Glory* cormels I have found them in the ground just as plump as the day they were planted with never a rootlet or sign of growth. Stubborn little rascals! What will wake them up? Maybe Mr. Kunderd knows—I do not as yet. Only, patience is a great virtue even in a Gladiolus lover.

The next thing to remember, as far as my observation goes, is that cormels want dampness in order to grow. That is why early spring planting is to be recommended. This spring and early summer were both wet in Ohio—result: my rows of *Norton* cormels show full and strong. They look actually as if every last cormel had come up, and that without my breaking the shells, since there were too many.

Thirdly, there is a great difference as to germination among the varieties. My row of *Lilywhite* is solid and growing rapidly, some promising bloom late in the summer. So there are others. But under the same conditions some varieties make but a poor showing, whether the shells are broken or left intact. Water, damp ground, kept continuously damp, is the one thing to provide. Add patience, and then you will get the results possible with the variety you are seeking to multiply from cormels.

Last fall when I dug my bulbs I paid attention especially to the cormels. It is simply wonderful how they grow. Some tight to the mother bulb, a solid mass, others with longer stems, and the Primulinus varieties with stems so long that the cormels are often on top of the old bulb as it is dug from the ground. Next note the shape of the cormels, some small and round and all quite uniform in size, others large and strong with smaller cormels in proportion; some tall and pointed, others round and without a sharp point. And between the extremes you will find all the variations possible, if you have the proper varieties in your collection. Finally the beauty in the color of the cormels as you dig them. This struck me most of all. Some are pure and white, others tinted in the most exquisite manner. One sees at a glance that the beautiful color of the flowers is already manifest in the tinting of the cormels. It is all in the covering of the cormel—the little casing or shell which eventually rots and disappears. The meat inside is white and alike in all. But the coloring is there nevertheless. When the cormels are dried the coloring disappears to the eye—all look brown, some a little darker than others. Of course, the tints themselves remain locked in the shell, and will show up eventually when the cormel comes to bloom.

So marked are the characteristics of many varieties of cormels that one is able to recognize certain varieties by the looks of the cormels when the bulbs are dug. If you find a *Schwaben* rogue among your *Pendletons*, your *Nortons*, your *Mary Pickfords*, you can detect it at once, even if the bulb did not bloom. The cormels will betray the rogue, these and the color of the flesh and husk of the bulb itself.

I am growing two cormels of *Giant Myrtle*. One of these had the shell slightly cracked in handling during the winter or perhaps at digging in the fall. The little fellow inside was dried a bit when his coat was taken off at planting. Do you know the result? The uncracked cormel is making its fourth leaf now (early July) and is quite a plant, while the other little chap has only two tiny rootlets, no thick fleshy root at all, such as cormels must make to do anything. Though planted in February this tiny bulb is just now beginning to show a little growth from the eye. I believe if I use patience enough I will actually get growth even from this cormel. But I am going to be careful not to crack the coats of any valuable varieties of cormels by rough handling. Even a little drying of the inside flesh retards growth for months, and may make it impossible altogether.

Thirty plump little *Paramount* cormels went into the soil. Twenty-nine are doing well. What about number 30? Early in the game this fine, plump and goodly sized cormel was soft—rotted. It is an unexplained tragedy. Wish I knew what did the damage, but there is no one to explain.

Yes, cormels are interesting. I have just begun my study of them. If I find out anything more worthwhile, perhaps I'll feel as I do just now—unable to keep still, have to tell it to THE FLOWER GROWER.

R. C. H. LENSKI.

One of the large commercial growers reports that he treated all Gladiolus bulbs and bulblets in formaldehyde solution, soaking the bulblets about the middle of March, and after soaking mixing them with moist sand. There is no doubt but that exposing bulblets to moisture some considerable time before planting will increase their germinating properties, but care must be exercised not to allow them to mold. Probably no danger of this when using a formaldehyde solution.

Keeping Cut Flowers.

The Horticultural Trade Journal of London has the following to say about keeping cut flowers:

Experienced market men know how best to keep flowers left over from one day to another, yet there are some who do not adopt the best methods. Much depends upon what the flowers are, but most flowers will keep better shut up close in boxes, than they will when put into water and exposed. In the ordinary way most flowers will keep longer if the stems are in water, shut up in a close cupboard, which is not very cold or too warm. But in the market there is no such convenience, and from experience I have found that flowers will last longer if shut up in close boxes. In some instances wet paper may be put around the stems, the boxes which should be moist, may be lined with wet paper, and a sheet of dry laid over the wet.

Carnations, Sweet Peas, and other flowers which curl up quickly, will keep much longer shut up close, than if put into water and the flowers exposed to a dry air. Flowers that turn upwards, such as Mignonette, Tulips, etc., should where possible be stood upright, instead of being laid down in boxes. It is rather surprising that growers do not adopt the system of packing flowers which turn, in a manner that will prevent it. With most short or medium length stems, there is but little difficulty in packing so that the flowers stand erect, and with some moisture at the bottom of the cases. Moisture is an essential, but it should not come on the flowers.

Some flowers keep better when fully exposed. The Sweet Sultan may be given as an instance; it will last longer fully exposed to the sun, and quite dry, than it will in a moist cool place where there is moisture.

During the past few months I have several times been asked how best flowers can be kept, and it is a difficult question to answer, for so much depends upon what the flowers are, and also the convenience at hand for storing. With few exceptions they will be found to keep better when shut up close in boxes.

I do not know if it is general, but in some of the London florists' shops they have lead-lined drawers for keeping cut flowers in. One florist who has good cellar accommodation tells me that he can keep flowers under the close archways where there is no draught, for a very long period.

The Larkspur.

The Larkspur (Delphinium) is well known and finds a place in nearly every garden. It is one of the few of the so-called old-fashioned flowers that are always wanted in the modern gardens. Some of the newest originations by those who have made a specialty of hybridizing the Larkspur are indeed quite wonderful and the tones and shades of color which are obtainable from Larkspur can hardly be found in any other plant.

A rich and damp soil is essential for vigorous growth, a sandy loam with plenty of water in the growing season giving best results. Seeds may be sown in summer for next year's bloom. Larkspur is easily propagated by division of the old plant or by cuttings made in the spring.

A mulch of well rotted manure applied to flowering plants during the dry season, keeps the roots moist and cool, and supplies plant food. Well rotted manure put on in the form of a mulch will work wonders in many cases.

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> "*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

Our Diminishing Food Supply.

Several times during recent months we have touched on sociological subjects which perhaps should have been preceded by an apology as not being strictly within the scope of THE FLOWER GROWER. No apology is needed when talking about the food supply. We are all interested in the food supply and in the maintaining of an adequate source of same.

Crop reports indicate this year more than ever the decreasing acreage utilized for the producing of food crops. This tendency was checked under war-time conditions, but only temporarily; and last year and this year has seen a big relapse into the tendency which was prevalent before the war. This can only mean one thing, and that is someone is likely to go hungry this winter. While in this country there may not be actual starvation or hunger, yet the prices of certain things will doubtless soar to a point which will mean privation to many, and in the world at large, actual hunger in many places.

There is an enormous production of non-essentials. The high wages commanded by unskilled labor results in the extravagant spending of money for things which are, many of them, worse than useless. Workers are continually drawn from the production of food products and absorbed by industries producing the non-essentials. The flow of labor from the farm to the manufacturing plants must be checked and checked soon. It can only be checked by the farmers being able to offer as high wages as the manufacturing plant. Perhaps he must offer higher wages in view of the fact that workers prefer indoor work to work in the fields. Will this be brought about by the reduction in wages in the manufacturing plant, or by the increasing of wages on the farm.

City dwellers, and they are now more numerous as compared with the country dwellers, believe that the farmer is getting rich. They resent any advance in the price of food products. The farmer is as ready to accuse the city dweller of boosting prices of the things that he must have. What possible influence can be set at work to correct this situation?

We must fall back on our old argument that it is a question of education. People are wrongly educated. Modern institutions teach, at least by inference, that labor is uncalled for from people who are graduated from our schools. Present methods of education should be corrected. In the primary grades especially children should be given the first lesson in work, and taught to understand that work is the first duty of man as a citizen, and that labor in connection with the soil is the most elevating. (See what the great Persian philosopher, Zoroaster, says at the head of our editorial columns.) If correct methods of education are adopted, it will only be a few years when extravagant expenditures will be stopped, and demoralizing tastes and desires will disappear.

We are quite aware that this is a many sided question, but doubt if anyone can successfully argue against our suggestion for right education as a remedy for present conditions.

MADISON COOPER.

Dahlia Growers and a Commercial Association.

The many commercial Dahlia growers should be interested, and it may be of interest to them to know that even now steps are being taken toward the formation of such an organization among growers. And it is hoped that something definite will be evolved before another sale season comes on.

There are a number of important advantages that might be gained by such co-operation among growers, chief among which would be a credit system and a proper listing of the slow pays, the never pays and the chronic kicker. Many thousands of dollars would have been saved to the growers if such an organization had been perfected years ago.

Take one instance of a certain grower in far off Australia. This person has systematically "touched" a new victim each season for many years. So far the writer has information of varying sums totaling well up to the thousand dollar mark. Had there been an organization of Dahlia growers (and possibly Gladiolus growers also) with a central bureau of information, he could have victimized but one grower. Let us hear from growers.

W. W. WILMORE.

American Gladiolus Society.

ANNUAL MEETING.

The annual meeting of the American Gladiolus Society will be held in one of the rooms of the Massachusetts Horticultural Society, Horticultural Hall, Boston, Mass., on August 14, 1920, at 3 P. M.

As the meeting will be on one of the days of the Gladiolus shows of the three societies, it is hoped that a full attendance will be had.

While it is recommended that Gladioli should be planted five to six inches in depth for the larger blooming sizes, we call attention to the fact that if planting early for early bloom, rather shallow planting is desirable and only the main crop should be planted deeply. A depth of three to four inches will answer nicely for early varieties planted especially for early bloom. The row may be ridged a little toward blooming time if necessary to support the flower stalks.

Would call attention to the article entitled "Hints from a Practical Peony Grower," on page 128 of this issue. The suggested method of propagating by the use of a bottomless box, which gives essentially the same results as the propagating method known as "layering" is certainly worth a trial. To increase rare and valuable sorts the method should prove valuable if successful.

Odds and Ends From the Garden.

Some Suggestions about the Rock Garden.

August is my month for extending my garden, each year I add new beds that will be ready for a new planting of Tulips, Irises, Peonies or what not and with the September rains I can plant and propagate my smaller rock-garden material. Now that Quarantine 37 restricts my purchases of curious bulbs, I am restricted to Tulips, Narcissi, and Crocus, for the Hyacinths are too formal for my needs.

Even within these narrow limits, there are some fascinating things for the small rock-garden. In such a place the big improved Crocuses *Mont Blanc*, the soft china blue *Maximilian*, or even *Largest Yellow* seem too showy; but among the species I can find as lovely color and a greater delicacy. *Sieberi* is a delightful blue and the equally early *Thomasinianus* in light lavender that fades to the palest of tints I like near the purpled curls of deep-toned Columbines. *Stellaris* is a straw yellow, most innocuous, the Scotch do not appeal, but *susianus* makes a "Cloth of Gold." The true Autumn Crocus does not seem to relish the long voyage just at blooming time, but flowers are so few in the autumn rock-garden that I am continually trying new species. The saffron *sativus*, *speciosus* in white and lavenders, the rosy lilac *pulchellus* are all attractive and so similar in effect to the *Colchicum autumnale* which is commonly called the Autumn Crocus that they may well take their place. The true Crocus has slender leaves which, on dying, do not become an eyesore as do the Colchicums.

The Narcissus also offers opportunities for broad selection, *minor* is but a dwarf yellow trumpet; *triandrus albus* and *calathinus* are delightful, their petals so reflexed that the flower reminds one of a Fuchsia and who could resist the delicate *cyclamineus* with its long narrow trumpet or *bulbocodium* with its proportionately big flaring trumpet and dwarfed perianth. *W. P. Milner* of a sulphur tint and *Queen of Spain* are also for the rock-garden while in the garden itself I have the clustered small flowers of *odorus rulugulosus* for early bloom. Like the *poetaz* and *polyanthus* groups it is not hardy in northern climes but in my warm garden they usually do well, and their fragrance carries far. The first are hybrids between *poeticus* which is so fine for naturalizing in an open meadow and the *Tazetta* group that we call polyanthus. The stalks are stiff, there is a certain artificial look to the waxy flowers but a single stalk even is worth admiring. *Sunset*, soft yellow in contrast with the rich orange cup, *Aspasia*, pure white with yellow, or the similar *Elvira* are perhaps my favorites.

In the most set part of my garden I have the trumpets, *Emperor*, *Glory of Leiden*, the newer *Glory of Sassenheim*, a bi-color, and the wonderful *King Alfred*, then in the outskirts come masses of Barri varieties with shallow cups and more graceful habits; *Seagull*, *Lucifer*, and *Firebrand* are names to conjure with. I must confess to a liking for the doubles, the whole Phoenix family and the Gardenia, *poeticus plenus*. Then in the very fields are the Poet's Narcissus and who can tell from a distance whether I have *Cassandra* or *Socrates* or just the type.

In the Tulips, too, I have a hankering for smaller things and though I can never resist the tea-rose coloring of *The Fawn* or *La Reve*, I like the types both big and little. What could be more gorgeous than the immense flowers of *gesneriana*, scarlet with a black base, or its variety *fulgens* a little less large but even brighter and with a yellow center. The vari-colored centers of Tulips have been used as a basis for classification and I always look into a Tulip's heart. Some time I shall have a raised path and below, my Tulip beds so that the casual passer-by may appreciate these inner glories as well. *Oculis-solis* has black with a rim of yellow, *elegans*, yellow alone *Rosalind*, white and pale fawn, rarely is their no distinction of color and among the garden varieties you will find endless combinations from *Margaret* with white and palest blue to *Phillippe de Commines* with deep blue blotches margined with white.

But all these are large and with the smaller perennials and wildings I demand Tulips in scale. The delicate Lady Tulip, *clusiana* has not been obtainable from its native haunts since the beginning of the war and has not proved permanent with me but the starry flowered ones that open in the sun are even lovelier. *Pulchella* is deep rosy mauve; *dasystemon*, yellow and white; *persica*, clear yellow, and *Kaufmanniana* in carmine and white and yellow shades. The *persica* of the trade is probably not a Tulip at all but *Baeometra Columnellaris* from South Africa, but like the true Tulips it opens wide its flowers to the sun and as each bulb is many flowered makes a fine low mass. None of these are much over six inches in height.

The *Dideri* varieties, *Marjoletti*, *Billietiana*, and the English *sylvestris* are taller growers but have more pointed slender petals than our usual garden favorites.

Only two Hyacinths appeal to me, *amethystinus* from Spain and *azureus* from Asia Minor, so unhyacinth-like are they that one would mistake them for a Muscari, they have the same slender spikes, even lovelier color and the first blooms late in May. If I am not mistaken I have seen the variety *amphibolis* listed as a Grape Hyacinth and learned to love it under that name. They are perhaps not quite as sturdy in growth as our old friends but under existing conditions we are much limited in our choice.

Perhaps our quarantine will prove a blessing in disguise, we who have longed for odds and ends of strange bulbs will be led into new paths, come into an appreciation not only of the samples I have mentioned herein but of some of our native things as well. For some of us there are Brodiaes and wild onions, the weird *Calochorti*, and for all of us Trilliums, Dogs Tooth Violets, *Camassias*, uvularias, and many more. I wonder how many of you know them in all their vagaries, have carpets of *Maianthemum*, nodding groups of Solomon's Seal, bold lumps of Veratrum, or dense clusters of the Star of Bethlehem. If not here is your opportunity to delve into the mysteries of our native flora.

Some months back I spoke of the yellow Foxglove in a rather hopeless tone, but the god of gardens has aided me and now they are lovely, towering spires of palest gold outlined against the green of the slope beyond with not afar the white and lavender bells of the peach leaved Bellflower, equally aspiring and equally in silhouette. They are chance sown seedlings but have given my rocky slope an unusual charm at this season.

R. S. BARRE.

The Poor Man's Orchids.

Fanciers of Iris and of Gladioli are both putting forth the claim that their own hobby is the "poor man's orchid." But there is glory enough in either one so that no quarreling should be indulged in and every garden should contain a goodly number of each of these popular and easily grown plants.

Now is the time to plant Iris, for they are now most nearly dormant. Every year marks the originating of new and important hybrids and at no time in the world's history have Iris been so glorious as now. Even ten years ago there was not nearly such a fine range of color and form as seen in all good collections today. And only in recent years has the Iris been sufficiently appreciated to enable specialists to develop Iris gardens that handle no other plants. Now the country at large has many great special Iris nurseries and California has her share. A very extensive collection is grown in a commercial field between Los Angeles and the sea. One fact has been demonstrated in California and that is that many Iris will stand very dry treatment and poor soil and yield magnificently in flowers. In very rich soils some Iris get sick and die.

The Gladiolus, that other poor man's orchid, will not endure drouth but must have a fair water supply and a rich soil if good flowers are to be produced. But they have larger and showier flower spikes than Iris and the colors are second to no flowers of the garden. Specialists have carried Gladioli to an even higher standard than they have the Iris and it really seems as if the end of improvement has been reached. The bulbs may be planted from November to July and will produce good flowers with ordinary care. The one best month for planting is no doubt January and nearly all California bulbs are planted within a month on either side of the first one. Commercial flower growers hold a great number in cold storage for late summer planting and the results have been all that was expected, for Gladiolus bulbs are good keepers. If kept in a cool, dry place they may even be kept over a season without planting and still produce vigorous growth the next year.—ERNEST BRAUNTON in *California Cultivator*.

Shasta Daisies are recommended as specimen plants in shrubbery. They furnish excellent cut flowers and are perfectly hardy.

WAYSIDE RAMBLINGS

[Written expressly for The Flower Grower.]

GLADIOLUS—"LE MARÉCHAL FOCH."

It is told that this name (entirely or with a slight alteration) is being given to several different new Gladioli and in order to avoid confusion, I would thank you, Mr. Editor, if you would allow me some space in THE FLOWER GROWER for the following:

The name of General Foch was given by the Commission for Nomenclature on July 27th, 1918, the day on which this variety was awarded Certificate of Merit. On August 4th, 1919, First Class Certificate was awarded and since by that time the French hero had gained the title of Marshal it was only reasonable for the Commission to change the name of the variety in compliance with the title of the great soldier after whom it was named. It was in Spring, 1918, that the glory of the great warrior became world-famous and considering the fact that this name was already registered by the Commission of the General Board of Bulb-Culture at Haarlem on July 27, 1918, we think that it will be rather difficult for any party to prove that they had adopted and registered this name at an earlier date. Moreover there is reason to believe that judging by the superior qualities of this novelty it will be difficult to find a new seedling that is more worthy to bear this great name.

J. HEEMSKERK,
Holland.

HARDY PERENNIALS.

The article on hardy Perennials, was greatly enjoyed, I have been preaching the religion of the hardy garden, lo, these many years, as against annuals, and the formal beds in colors of bulbs, or tender Coleus or other greenhouse plants for the mother or busy housekeeper, and all who love nature in any or all her varied displays of mixed colors. Have never seen a combination in nature that did not harmonize.

By selecting the earliest Phlox, with some of the most beautiful later kinds, including white, I soon have them in every shade and marking, from the earliest bloom until frost, the bees and insects being nature's hybridizers. Since when the black bugs destroyed their bloom I could only foil them by breaking out the entire head, when it would soon be renewed by one, larger, flatter and more floriferous than had been at first. By keeping this up, the season of bugs has passed, and I thus keep my Phloxes full of bloom until frost. This treatment is as satisfactorily practiced on Hollyhocks and perennial Larkspurs, and some other perennials and shrubs.

SARAH A. PLEAS.

HARDY CHRYSANTHEMUMS.

Groschner, of Ohio, says hardy Chrysanthemums are delayed by cool autumn weather. Down here they refuse to advance until the weather gets cool. As the hot weather lasts very late, frosts follow too quickly to permit blooms except when protection is given most religiously on frosty nights.

B. C. AUTEN, (Mo.)

Shrubs That Flower Early.

In its current bulletin the Arnold Arboretum says:

Prinsepia sinensis is again covered with clusters of bright yellow flowers which spring from the axils of the half-grown leaves. This Prinsepia is a tall broad shrub with long spreading and arching branches, and stems armed with many spines. It is perfectly hardy and the handsomest shrub Manchuria has contributed to western gardens. There are only two specimens in the Arboretum and these came here from Petrograd in 1903 and 1906, and it has been found difficult to propagate them by cuttings. Fortunately last year one of the plants produced for the first time a few seeds and these have germinated, so there is reason to hope if the Arboretum plants become more fruitful that this species will be a common ornament in northern gardens. It has much to recommend it as a hedge plant. The species from northern China, *P. uniflora*, is a spiny shrub with small white flowers, and although it has little beauty its value for forming impenetrable hedges may prove considerable.

Prunus dasycarpa, which is sometimes called the Black Apricot from the dark color of its slightly downy fruit, is the first of May one of the handsome flowering trees in the Arboretum. It grows here both as a great round-headed shrub with several stems or as a tree with a single trunk, and every year is completely covered with its flowers composed of pure white petals and a bright red calyx. This tree, although it has been known in European gardens for at least a century, is apparently extremely rare in the United States. Its origin is doubtful; it has been considered a native of Siberia, but it is now generally acknowledged that it is a hybrid between a plum and an apricot. Although this tree has been growing in the Arboretum for twenty years, there is no record that it has produced fruit here on more than two occasions.

Two plants useful for covering the margins of drives and the borders of shrubberies, *Rhus canadensis* (*aromatica*) and the Yellow Root (*Xanthorrhiza apiifolia*) are covered with flowers. Those of the former are small, pale yellow, arranged in compact heads, and appear before or with the unfolding of the leaves composed of three leaflets; those of the Yellow Root are purple in long drooping, terminal racemes. The flowers of these two eastern American plants are attractive, but their great horticultural value is in their habit of growth. The height of the Rhus is from two to four feet, with spreading branches, the lowest flat on the ground, and with an irregular top. In the autumn the leaves turn bright scarlet. For road borders and to plant when it is desirable to make a connection between larger shrubs and the ground no other plant which has been tried here has proved so successful. The Yellow Root is a dwarf shrub which soon spreads over a wide border and forms with its erect stems and divided leaves an excellent ground cover. Unfortunately it has failed to grow well in those parts of the country where the soil is strongly impregnated with lime.

Shad Bushes, as Amelanchiers are often called because they are supposed to flower when shad begin to ascend the rivers from the sea, add much to the beauty in early May of the Arnold Arboretum where they have been planted in considerable numbers. Amelanchier is almost entirely confined to North America where many species are found from Saskatchewan to Louisiana and from the Atlantic to the Pacific, one extra American species occurring in central Europe and another in central China. All Amelanchiers produce abundant pure white flowers in short drooping racemes, and blue-black sweet and edible berry-like fruits. The American species vary from shrubs hardly more than a foot or two high up to trees exceptionally sixty or seventy feet tall. The first species to flower, *A. canadensis*, is the larger of the two trees, and although it grows in western New York to a large size it is more common in the south where it is often the only species. The more common northern tree, *A. laevis*, is a native of the Arboretum and is readily distinguished in early spring by the purple color of its young leaves. *A. oblongifolia*, which is a large arborescent shrub, is also a native of the Arboretum. It is this species which is gray in early spring from the thick felt of pale hairs on the young leaves and flower-clusters, and which has been largely planted by the Arboretum drives and is in bloom this week.

The Glad Philosopher's Musings.

Neither indolence nor overwork is good for mankind. Indeed, both are decidedly harmful. An unused tool rusts; overused, it breaks or wears out rapidly.

Vigor of mind and body can only be kept up by exercising both brain and muscle, with regular periods of rest. Some people work haphazard,—without a plan, and their results show it. Others are ever planning but never carry out the plans, and these have no results to show. It is well to plan your work, and then work your plan.

The logical time for resting is after the work is done. The first chapter of Genesis records a vast amount of work completed before any provision was made for taking a rest. The indolent and shiftless do their resting before beginning the task instead of after finishing it.

What a lot of good, hard-earned money is wasted every year through carelessness, ignorance and indifference. One of my acquaintances always manages to lose his stock of Gladiolus bulbs each season, and so has to buy a new lot every spring. One fall he put off digging them until it was too late; one winter they were frozen because he failed to close the cellar windows during a spell of zero weather; again, they became affected with lice and he threw them away. Always lost through some form of neglect or by a condition that could easily have been obviated.

The helpless man. Don't you pity him? From the time someone has to waken him in the morning until someone has to turn down the covers of his bed at retiring time he has to be continually waited upon. He cannot be counted on for help to perform any of the many little tasks that come up in the household because he never did the thing before, and consequently doesn't know how. He cannot work in the garden because he doesn't know the weeds from the flowers and fears he might destroy something of value. When he wishes to mail a package, he asks someone to wrap it up for him because he does not know how to do it properly; then he wants it addressed by someone because he doesn't write plainly, after which he wants somebody to tell him how much postage it is going to need, for he doesn't know what zone the destination is in, nor what the rates are. Finally, will someone please take it to the post-office for him? Of course, we always help the poor fellow out, but we do wish he had a little more initiative and self-reliance.

THE GLAD PHILOSOPHER.

MRS. AUSTIN'S TALKS

[Written expressly for The Flower Grower.]

A Ride and Picnic in California.

"At six o'clock sharp."

"All right, we'll be ready."

And at "six o'clock sharp" the next morning—a California winter morning giving promise of a beautiful day—we, Mr. Austin and myself, with Mr. Robert Hamilton and wife and son, Austin Hamilton, started on our trip from Campbell to Point Lobos, a picnic grounds not far from the old town of Monterey.

"We will first drive over to San Jose where I have some errands, and strike the state highway from there," said Mr. Hamilton."

"You are very convenient to San Jose," said Mr. Austin. "I take it that you are about five miles from there."

"Yes, just about that. Campbell is really the center of the fruit orchard section, being five miles from each of the towns, San Jose, Santa Clara, Saratoga and Los Gatos."

"Papa, I want a hatchet," piped young Hamilton from the rear seat, but no reply came.

"Well, Robert," said Mr. Austin, "When my father gave me the name of his boyhood chum, Albert Hamilton, your father, he little dreampt that we, when gray-haired men, would become acquainted and be riding together over this beautiful country. How did Uncle Bert—I always called him Uncle—happen to settle here in Campbell?"

"Papa, when you get to San Jose, will you get me a hatchet?" came from the rear again, and again no reply.

"Well, I think that at first it was partly on account of the weather in the east. Although I was but a small boy when we lived in Connecticut I can remember the stinging cold of winter and intense heat of summer. Then my mother was a western girl and accustomed to our genial climate. I think, too, that he foresaw the possibilities of this valley. He bought land and set it out to prunes, apricots and English walnuts, and built the house that stands there now. He was as much a leader in all progressive movements on land as he had been leader and manager when captain on the whaling ship so many years at sea. When it was decided to make an exhibit of Santa Clara Valley fruits at the Chicago World's Fair he was deeply interested. I suppose you saw the prune horse and rider?"

"Yes, it was a very fine exhibit. He visited us that year, coming direct to us from the fair, and brought photos of his home and orchards. We have them yet."

"Papa, won't you get me a hatchet at San Jose, I want a big one so I can cut kindlings."

"After he passed away the place was divided and sister Edith, Mrs. Marr, has the part on which the house stands. Maybe you noticed the large English walnut trees and in front and along the street. She understands curing fruits and often does some of the work herself. There are some fine old trees on my place, too. One of those just north of the house, bore a ton of fruit one year recently. We have a fine drying plant in Campbell. In fact it's the largest drying plant in the world. Twenty-five thousand trays of fruit can be placed on the ground at one time. It is a co-operative institution and the farmers bring their crops in to be dried. We have three fruit canneries, too. Santa Clara fruits go all over the world now."

"Papa, won't you get me a hatchet here in San Jose," as we stopped at the curb, "I want a big one to cut kindlings with, and I want it now to cut wood to-day to cook our dinner." Evidently young Austin Hamilton believed in the old maxim: "Constant dropping wears a stone," which proved true in that case, for although our stop in the city was short, when we left a hatchet was added to the picnic luggage and a boy was made happy.

The car purred on over the state highway, which, by-the-way, is in the form of a great Y centering at San Jose, one arm going to San Francisco, on the north side of the Bay, and the other (when completed) leading to Oakland, on the other side, and the tail of the Y running southward by way of Gilroy, and extending to the southern part of the State.

"You certainly have wonderful roads here," said Mr. Austin." Coming from Los Angeles by rail up the coast route, we could see the highway running parallel, the white fences bordering it around dangerous curves making it conspicuous. It must be a beautiful auto trip, winding in around the mountains. They called it the Kings Highway down there, but I noticed that some of the Californians objected to that name, preferring to call it the State Highway."

It is a concrete road with asphaltum surface, making a wide smooth boulevard. We passed many miles of orchards of prunes, apricots, walnuts and almonds, the almonds just coming into bloom. On through pretty towns where homey-looking bungalows nestled in their setting of flowering plants and vines.

It was Daffodil season and never have I seen such quantities, nor such perfection of that golden flower. There were many Hyacinths and Tulips coming into bloom also. Passing through ranching country we were fortunate in being able to see the cattle ranch of Miller and Lux, one of the greatest in the state, where thousands of animals are cared for, some in the feed-lots, and others on the ranges and grazing on the hill as far as we could see. Mr. Hamilton pointed to a conspicuous clump of evergreen trees. "Do you see those trees? The wife of one of the proprietors of that great ranch lies buried there. She was accidentally killed and was buried in that beautiful resting place instead of a cemetery."

We came to the Mission of San Juan, Bautista, and stopped to walk under its massive arches. Later, we passed the Carmel Mission another interesting one. Our trip thus far had taken us up over the mountains and down and again up into what if I remember rightly—what, I think, was called the Heights of Carmel. A lovely place anyway.

"This beautiful wooded place is where the artists come to paint their pictures, and poets receive inspiration," remarked Mrs. Hamilton. "Some of the greatest artists and writers visit here, stopping in pretty secluded cottages, like those. When the trees are in full foliage some of them are completely hidden from roadside view."

The sun shone warmly in the openings and many plants needing only this slight encouragement, were covering themselves with a profusion of bloom. Shasta Daisies were in abundance.

Nearing the picnic grounds of Point Lobos, we entered under the sheltering branches of great live oaks, windswept pines and the famous Monterey cypress. I could not help but notice how these guardians of the bluff adapted themselves to that environment. The cypress especially had a dished in appearance as if the tops had been broken out and they had raised their side branches in protest against the rigors of the sea, but Monterey cypress grown on the grounds of the Stanford University, at Palo Alto in a place protected from strong winds, grew in sharp pyramidal form.

Some of the famous Monterey Cypresses in the bank of the Ocean.

In the sunny opening young Hamilton used his hatchet with great zeal and good results and soon his father had coffee on the stone cooking oven and barbecued the steak, while Mrs. Hamilton spread the cloth and placed the food upon the picnic table. "Enough for threshers!" I exclaimed, but they, being fruit growers, were unacquainted with the appetites of our eastern grain threshers.

Mr. Austin had the appearance of being general superintendent, and I kept busy making snapshots. Before us in immeasurable grandeur lay the ocean beautifully calm, but of a deeper more purplish blue than I had ever imagined it to be.

After our most sumptuous repast we descended the bluff to go out on the rocky beach below. When we were about half way down—"A whale! A whale!" It was my own voice, but I am sure no one would ever have recognized it, and in my excitement I came near falling the rest of the way down the bluff. "There he is, see him spouting?" Then Robert Hamilton smiled. "We call that blowing. You see," said he in explanation, "When a whale wants food, he swims with his mouth open, and scores of the little fish on which he feeds are caught with the water which is strained through fine hair-like threads in his mouth and then blown out through a hole in the top of his head. Up to Moss Landing there is a whaling station. It won't be much out of our way as we go home, and we'll drive in and perhaps you will have the opportunity to see one close at hand."

I had never been on a rocky beach before and found it much different than the smooth sandy beaches that we had visited previously. There were high cliffs that reminded me of cathedral towers, and on which grew thousands of the rosette-like plants, well known as Old Hen and Chickens, looking as if they were glued on the steep sides. Their thrifty fleshy leaves of bright green, edged carmine, dampened with fog or spray glistened brightly in the sunlight. Little bushes, one to two feet in height, and covered with small thick leaves of bright yellow, red and green, grew on the rough, barren-like rocks at our feet, and every little crevice seemed filled with curious little sea life entirely unknown to me. The tide was coming in, the great breakers seeming to follow us, while the "Old Maid's Teakettle" (of rocks so-named) boiled and hummed a merry song. Robert looked longingly at rocks covered with large mussels just out of reach. "We're too late for them now, we have to get them when the tide goes out, but we will have some before we go home."

Leaving Point Lobos we went riding through the beautiful "Seventeen Mile Drive" passing great sand dunes on which Sand Verbenas grew in abundance. We stopped at Pebbly Beach, then to Monterey where we decided to stay all night, being entertained in the evening at a movie show chosen by young Hamilton who was apparently well posted on the merits of Tom Mix.

Monterey is one of the old towns of California, is a fishing town and has a large sardine packing plant. We spent a part of the forenoon in visiting historic buildings which included the old Custom House, now bleak and bare, and two old houses, Gen. Sherman and Hallock's headquarters in the early days. We visited a quaint little old building that was the first theatre building in California. The stage curtain was a door hinged at the top. In this building were many curios to be seen and to sell, and the outside was wreathed with roses.

While on the street a truck, in which was a baby whale, passed by to be weighed. The truck was large and the nose of the whale was at the front end and about one-third of its length extended out at the end of the truck.

"That's just a baby," said Mr. Hamilton, "some are brought in to the whaling station that are sixty feet long."

Leaving Monterey we went to Point Joe where a bag of the coveted mussels were gathered, then started homeward by way of Salinas, where we had lunch, afterward making a side trip to the whaling station at Moss Landing. This is a large two story covered building with open sides and an incline from the ocean up to the second story where whales are drawn in with pulleys. Here the monsters of the deep are cut up, the flesh and fat being dropped through trap-doors in the floor to rendering vats below. While there we saw men sawing through a great bone with a cross-cut saw, in very much the same way a large log is sawed. The flesh was a very dark red. Outside was a pile of whale bones as large as two ordinary size barns. We were glad to leave this place and its terrible odor quickly, and headed homeward with no more stops in mind.

A cloud appeared, one that would mean nothing to us, but our California friends watched it with interest for there had been a scant supply of the necessary moisture for their fruit crops. They surely wanted the rain but a ride in it was by no means to their liking, but a sprinkling shower overtook us and seemed like a delightful April storm.

Next came the feast of mussels, and Mr. Austin and I had declared to each other that we would eat and say they were good if it killed us, but much to our surprise we liked them and wished we had more, which we easily might have had, had we even faintly suspected they were such delicious seafood.

Mrs. A. H. Austin.

The St. Thomas Horticultural Society.

Local Gladiolus enthusiasts are calling a meeting in the near future to discuss the advisability of forming an Ontario Gladiolus Society.

At the first annual exhibition of the Ontario Peony Association held in London recently the St. Thomas Horticultural Society won first prize for the best collection of six blooms. An invitation was extended to the Ontario Society by the City Council, Chamber of Commerce and the St. Thomas Horticultural Society to meet in Saint Thomas next year. Though nothing definite was arranged it is likely that the invitation will be accepted.

Hundreds of out-of-town people visited the city during Peony time to see the wonderful display of bloom, especially at Pinafore Park. They came in answer to an invitation which was sent to all the horticultural societies throughout Western Ontario. The collection has been increased to nearly 200 varieties, the majority of which were in bloom and labelled. This fall it is the intention to add a great many of the newer and rarer kinds. The shrubbery and ornamentals were also labelled for the occasion. On Peony Sunday, June 20th, most of the churches were beautifully decorated with Peonies, and at Pinafore Park during the afternoon a splendid programme of music was rendered.

The Society has ordered for fall for distribution among the members, 1000 Peonies. Included in the list are such varieties as *Milton Hill*, *La Cygne*, *Therese*, *Walter Faxon*, *La France*, and all the better varieties of earlier origin.

Mr. R. V. Smith, for two years superintendent of the parks of the city of London, Ontario, has been appointed superintendent of the planting of the Society's beds throughout the city, thereby putting the work on a high plane.

The city of St. Thomas has had erected in different parks in the city three bird houses for Purple Martins. The construction is rather elaborate and each will hold eighty pairs of birds. They are erected on steel towers 24 ft. high and set in cement. St. Thomas is probably the first municipality in Canada to erect bird houses as a municipal project.

AMERICAN IRIS SOCIETY.

The first Iris exhibition under the jurisdiction of the American Iris Society in Canada, was held by the St. Thomas Horticultural Society in the early part of June and was a very successful show, nearly 100 exhibits being staged. Amongst the exhibits of note was that of Mr. Frank S. Wood, of London, from his splendid gardens at Kilworth. Mr. Edgar Jeffery, of London, also sent some splendid bloom. The balance of the exhibits were from St. Thomas. No awards were made, the idea being purely educational. As a result the St. Thomas Society decided to purchase 25 sets of Iris (Kaempferi), 25 varieties to the set, for its members. Many of the members are securing excellent collections of other types.

Dr. F. E. Bennett, Pres't.

Catalogues and Price Lists.

National Bulb Farms, Benton Harbor, Michigan—Wholesale list of fall bulbs for 1920.

J. Heemskerk, Care P. Van Deursen, Sassenheim, Holland. Price list of the fall bulbs with colored illustrations, Hyacinths, Tulips and Narcissi. Also a select list of Gladioli.

Dean Iris Gardens, Moneta, Calif.—Price list for 1920 1921 of Irises. The Dean collection is one of the largest in the United States.

The American Iris Society.

THE FIRST flowering season of our Society is well-passed, certain of our careful plans did not mature, but on the whole, we can claim much of success and now that the spring rush is over it is time to study out an even finer development for next year both for our Society and for our gardens. If you have not already done your transplanting and purchasing, now is the time, you will find many fellow members, dealers in Irises, order from them and I feel sure that you will be satisfied. They are subject to human error, your plants may not be always true to name, but you will find them all willing to correct mistakes in a cheerful spirit. The past winter has been unusually hard on Irises in many sections, labor has been very difficult and I hope that all our members who purchase from fellow members will show a lenient spirit. I have many interesting catalogues and leaflets on file and hope that in the September issue I may tell you of some of them. They often have a personal touch that instantly creates confidence. If a man, or a firm, is making a specialty of the Iris, you will find an Iris order well attended to. I can hardly say as much of the general nursery that carries a small collection of superseded varieties.

A number of interesting points have been brought up in the correspondence, but again this month we must be satisfied with reports, important to be sure, but of a routine nature.

ANNUAL MEETING.

There was little business other than the election of officers (see Ballot in May Flower Grower) except for resolutions of thanks and the election of Honorary members. Both the mailed and *viva voce* votes were overwhelmingly against either Associate Members or Affiliated organizations.

Formal thanks were unanimously voted to the Pennsylvania Horticultural Society, the Massachusetts Horticultural Society and a number of individuals, not members, for their cordial co-operation in various exhibitions; to Mrs. Horatio Gates Lloyd, of Haveford, Pa; Mrs. Charles H. Stout, of Short Hills, N. J., and the Northwestern National Bank, of Minneapolis, for Silver Cups offered for competition, and to Mrs. Samuel H. Taft, of Cincinnati, for a Rookwood Vase offered as a prize at the Boston Show.

The following were elected Honorary Members for Life:

Mr. W. R. Dykes, Secretary of the Royal Horticultural Society and author of "The Genus Iris."

Mr. R. Irwin Lynch, Curator of the Cambridge Botanical Garden, England, and author of the "Book of the Iris."

Mr. R. W. Wallace, of R. Wallace & Co., Colchester, England.

Mr. A. J. Bliss, of Morwellham, England, the great English breeder.

M. Millet, of Millet et Fils, Bourg-la-Reine, France.

M. F. Denis, of Balaruc-les-Bains, France, a noted breeder.

M. S. Mottet, of Vilmorin, Andrieux et Cie, Paris, France.

A number of these gentlemen are already members of our Society, have contributed largely to our records and we hope that they may derive both pleasure and profit from the association.

I shall quote but briefly from the President's report: "It would not be right to present this report without mentioning the extremely cordial reception which this youngest of special plant societies has received from many individuals, from Societies and from the press. * * Horticultural Societies and Garden Clubs have sent official representatives to our meetings and have supported us financially as well as morally. The New York Botanical Garden, the Brooklyn Botanic Garden, Cornell University and other institutions are co-operating by giving land and labor without cost to us for the establishment of Test Gardens. The response of the press has been remarkable. Through the kindness of Mr. Cooper we are now using The Flower Grower as the official organ of the Society. *The Florists' Exchange* has repeatedly urged upon nurserymen and florists the importance and value of joining and supporting the Society, other trade papers have also given us space in a most friendly spirit, while *The Garden Magazine, The Bulletin of the Garden Clubs of America, The Gardener's Chronicle of America* and the English gardening papers have published kindly notices about us. There have also been many notices in the daily papers of various cities and the American Peony Society has gone so far as to publish a special Iris Bulletin, and to dedicate it to this Society with wishes of 'success, long life, and much solid achievement.' Co-operation is necessary to achieve success and the generous response which has greeted the foundation of this Society proves that such co-operation is forthcoming if the object is a worthy and important one.

The officers and directors of the American Iris Society have done their utmost to establish it on a firm footing. The answer to our efforts shows that we were not mistaken in our idea that America was interested in Irises. We look to the enthusiasm of our members to assist us in continuing the work of this Society, the founding of which marks an epoch in the history of American horticulture."

The Treasurer, Mr. Frank H. Presby, reported total receipts of $1728.19, an investment in Liberty Bonds to the value of $650 and an unexpended balance of $713.98.

It was suggested that the Annual Meeting for 1921 should take place in Cincinnati or some city further west but decision was reserved to the Directors.

As much of the work done by the committees is known to you, or not yet completed, I shall hold their reports for a future issue.

NOTES.

We still lack stock of some varieties for our trial grounds and we are particularly anxious to get both the newest varieties and the very old ones not commonly listed. We may not be able to select any from the list submitted, but at least give us the opportunity.

The Bulletin on Culture should have reached you, I much regret the delay, but hope that it will prove of real value. Great credit is due to the Committee on Culture and the other contributors, in fact our members have proved so helpful that we already tentatively plan another Bulletin for next January. Sir Arthur Hort has sent in a delightful article on Sir Michael Foster and his Irises, others have promised similar historical notes and there is every prospect of a fine Bulletin. I feel sure that you all have enjoyed the Iris number of The Peony Society Bulletin, and if any of you have any interest in Peonies join the Peony Society. With their many years of growth, they can offer you a check list, descriptions, and bulletins of helpful notes.

For the most of us our seed pods are beginning to ripen. As they yellow and start to open at the top, pick them, dry them and shell them. Personally I plant them in October in the open ground, late enough so that there is no chance of germination until spring, but others plant immediately, often in pots which are carried over in frames, or out-of-doors. Many will germinate next spring and it is rarely worthwhile to keep the seed-bed another year.

I am glad to announce that I can now supply Dr. Ridgeway's "Color Standards and Nomenclature" to members for $7.50, plus postage. As you will remember the regular price is $10. It is *not* a necessary adjunct to filling out your descriptions, but I find it of great value when I wish to do my winter planning. A glance at my records, reference to the chart and I can soon tell whether blue Columbines will go well with Iris *Caprice* or *Isoline* with *Jacquesiana*. From memory I should say not, but only actual or chart comparison will tell.

EXHIBITIONS.

This reporting of exhibitions has proved most difficult, each deserves full space, there must have been at least one hundred exhibitors represented, most of them members of our Society. I should like to mention each and all because it is through their work that the Iris has been brought before many hundreds of people who *now* will have some appreciation of what our Society stands for. Space, however, is at a premium and I hope that none of the exhibitors who have not been mentioned will place the blame on other shoulders than mine.

The winners should select the varieties offered for prizes and notify either their local representative, or me, so that shipments may be made promptly and I trust also that many of you will have suggestions to offer as to our next year's schedule.

ONTARIO.

Dr. F. E. Bennett has written us that at St. Thomas there was a fine display of Irises in the windows of Baldwin, Robinson, Ltd., the first exhibition of its kind in Canada, as *The Times Journal* puts it. Messrs. Edgar Jeffrey and F. S. Wood contributed largely but the St. Thomas gardeners were not far behind. Such action is but the forerunner of greater interest and a real competitive show another year. I should like to see similar displays in every city where we have members another season, it would bring the Iris fans together and develop the local interest by which alone our Society can thrive. Mr. Mitchell in Oakland, Mrs. Taft in Cincinnati, Mr. Brallior in Nashville have all carried on such educational displays, let us plan to make it even more general next year.

MINNEAPOLIS.

This exhibition was held in the lobby of the Northwestern National Bank and proved so successful that Mr. McRae, the Vice President, in presenting a Silver Cup to Mr. A. C. Arny, expressed the hope that there would be another exhibition another year. Through the kindness of the bank officials the tables and vases were decorated with ferns and other greens so that the Irises appeared to fine effect. Mr. Willis E. Fryer showed seedlings almost by the hundred and his *Magnificent* received the A. I. S. Certificate of Honorable Mention. It has standards of a "darker red than *Edouard Michel*" and " very broad, nearly purple'' falls. Mr. Albert C. Arny was first in the 30 variety class, in No. 2, and also won the specimen stalk with *Alcazar*, Mr. Kenning coming in second with *Zua*. The Rainbow Gardens showed fine Beardless Irises and Holme & Olson and the Pfeiffer Nursery were well in the running. Among the many amateurs, Mrs. F. W. Thurston, Miss Sabia Ellison, and Mrs. H. B. Tillotson, who proved of unusual help, all won more than one of the prizes.

Mr. Kenning was most fortunate in having the efficient assistance of Profs. Cady, McIntosh and Arny, all of the Farm School, in running the show. Mr. Arny won the Silver Medal as well as the cup offered by the Northwestern National, and the A. I. S. Bronze Medal went to Rainbow Iris Gardens. Both Mr. Kenning's letter and the many clippings testify to a great interest in Irises in Minnesota, but there is promise of even greater interest another year.

REGISTRATION.

This is merely a registration of names, in most cases descriptions are on record but with few exceptions (H. M.) the merit of the variety is an unknown quantity. Although the code of nomenclature has not yet been accepted it is probable that if varieties are not introduced within a stated time, registration will, upon notice, be withdrawn. Names of any length, names similar to those of existing varieties, or likely to be misinterpreted, and possibly names of people will be considered undesirable.

Growers should register names accompanied, if possible, by description. I expect that the following list is far from complete:

Alhambra, a richer and deeper Sherbert. Grace Sturtevant.

Ethel Aldrich, deep lavender with red flushed falls. Ethel Aldrich.

Frank H. Thomas, cream with delicately tinted S. Twin Larches Nursery.

Harriet Presby, a violet of height. Frank H. Presby.

Inner Glow, cream with yellow beard. Grace Sturtevant.

Lerline, early light mauve, 40 in. A. J. Bliss.

Magnificent, H. M. Minneapolis, 1920. W. E. Fryer.

Marion Mohr, an unusually long delicate blue-lavender. Wm. Mohr.

Moonlight, a yellow pallida. Grace Sturtevant.

Old Ivory, a buff pallida. Grace Sturtevant.

Polaris, a 4 ft. violet self. Grace Sturtevant.

Primrose, a bright yellow self. Grace Sturtevant.

Seminole, H. M. Philadelphia, 1920. B. H. Farr.

Taj Mahal, a white pallida, 38 in. Grace Sturtevant.

Tamar, a rich 45 in. lilac. A. J. Bliss.

Tintallion, delicate lavender, color deepens at tip of falls. Grace Sturtevant.

Twin Larches, a white plicata. Twin Larches Nursery.

Virginia Moore, H. M. Washington, 1920. J. Marion Shull.

White Nymph, a flushed white. Mrs. E. P. McKinney.

R. S. STURTEVANT, Secretary.

June 1920 American Iris Society Bulletin on the Culture of Irises in the United States is to hand. It contains articles written by experienced Iris growers in various parts of the United States which will doubtless prove helpful to any Iris grower, no matter where located. Notes on Iris culture are added and a roster of the charter membership of the society to June 1st, 1920 is given.

Northwestern Peony and Iris Society.

W. F. CHRISTMAN, *Secretary*

The annual June Peony exhibition of the Northwestern Peony & Iris Society was held June 19th in connection with the Minnesota State Garden Flower Society and the Minnesota State Horticultural Society's exhibits. The display was made in the Gymnasium building of the University Farm School, St. Paul, Minnesota.

This exhibition, while not as large as in former years due to torrid weather and torrential rains immediately preceding, was a very worthy one and many beautiful blooms were to be seen.

Mr. D. W. C. Ruff, carried off first prize in the professional class with a splendid display that extended the entire length of the large hall. Something over 150 varieties were exhibited and all of them were in first class condition. The yellow Peony *Lutea* created a great deal of comment, as well as many other magnificent blooms in this display. Mr. Ruff has the art of exhibiting his flowers down to a science and can always make a splendid showing regardless of climatic conditions. To the novice not initiated in this feature of the game will say that it requires an immense lot of work and a considerable outlay of money. Great credit is due to Mr. Ruff's efforts as his display was the outstanding feature of the exhibition.

Mr. A. B. Franklin, carried off the second prize in the professional class for a general collection of Peonies. Two large vases of the new seedling *Mabel L. Franklin* won a great deal of admiration and most favorable comment.

In the amateur collection Mrs. H. B. Tillotson, won first prize money with a splendid display of blooms. Mr. A. C. Arny carried off second prize in this class. Mr. Arny's collection consisted of some very fine varieties.

I do not have before me the winners in the color classes of the various exhibits. Mr. Ruff with a splendid vase of *Mary Brand* carried off first prize in the reds. He also received second prize in the light pinks with *Therese*. The first prize in the light pink class went to Mr. A. C. Arny with some splendid blooms of *Albert Crousse*, as I recall it. Being busily occupied with other matters I did not get an opportunity to make a definite record but it will be secured later.

Harry Franklin Baker had a large display of flowers and among them quite a collection of Peony blooms of the standard varieties. These were not entered in competition.

Mr. John E. Stryker had a number of fine blooms on display but they were not entered in competition.

There were a few other small displays that the writer did not get an opportunity to learn the exhibitor's name.

Judging in the professional class was done by Mr. John E. Stryker and the amateur exhibits were judged by Mr. D. W. C. Ruff. The capability of these two men as judges is unquestioned and as a result there could be no question of doubt as to the rightful winners.

In the seedling class there was no competition and Mr. A. B. Franklin carried off first, second and third prizes. Had there been competition in this class, the first prize winner, Seedling No. 8, now named, *Mabel L. Franklin*, would doubtless have carried off first honors, as it created most favorable comment by all who viewed it. The blooms displayed were from two year old plants and were not purely representative of the fully established flower. Size only was lacking. *Seedling No. 36* carried off second honors. This is a flower similar to *Mabel L. Franklin* in type but differing in color. *No. 36* is a delicate or flesh pink beautifully margined on the inner petals with lavender. This seedling is in a class with *No. 8*. Both varieties are of a perfect Rose type and possess a most delightful fragrance. The writer had the pleasure of spending a day in Mr. Franklin's fields and examining some thirty odd specimen seedlings, a number of which will doubtless prove to be first class varieties. Will have more to say about these seedlings at a later date.

Mrs. Tillotson has a splendid seedling that was displayed but not put in competition. It is a fine, full, double flower and will doubtless be placed in competition another year.

Mrs. Wm. Crawford, of Laporte, Ind., was a visitor and very kindly consented to talk before the gathering on "Propagation and Cultivation of the Peony." Mrs. Crawford was given no advance notice to enable her to prepare a paper but she gave a splendid, practical talk that will prove of great value to those starting in the Peony game. She was detained for a considerable length of time answering the volley of questions that were presented to her by her interested listeners. This talk was followed later by Mr. D. W. C. Ruff. Unfortunately the writer was called away from the meeting and did not get an opportunity to hear him. Mr. Ruff illustrated his talk with several splendid blooms.

Due to the inclement weather immediately preceding the exhibition Mr. A. M. Brand made no display. This is the first year for some time that he has not added greatly to the exhibition by his display of Brand seedlings and other varieties. Understand from Mrs. Crawford who visited his gardens on Friday the 18th of June that he had anticipated showing a number but a severe storm destroyed a great number of blooms and this added to terrific heat a few days previous proved disastrous.

A small party made a trip to the trial testing grounds of the Farm School and examined the Peony planting. Everything showed excellent care and attention. There is ample space provided for a large planting of Peonies and it is hoped that there may be a general response this fall when the call is made for donations to this cause.

On June 16th and 17th a splendid Peony show was held in the First National Bank, St. Paul, Minn., under the auspices of the bank. This exhibition was for amateurs only and consisted of two classes, the Advanced Amateur Class and the Novice Amateur Class. A great deal of interest was manifested in this exhibition and some splendid bloom shown. Understand this is to be an annual affair in the future due to the success of the first venture.

The professional exhibits of the Riverview Gardens, Mr. A. J. Wilkins, Mr. Wm. Anderson, and Mr. D. W. C. Ruff, added greatly to the display and made the show the success it proved to be.

In the Riverview Gardens exhibit was noted a large vase of *Therese* that were magnificent. This grand variety always receives the highest praise and deservedly so. Other varieties exhibited in this collection were as follows: *Karl Rosenfield, Clair du Bois, Avalanche, Mary Brand, Laura Dessert, Lady Alexander Duff, La France, Madam Jules Dessert, Loveliness, Venus, Felix Crousse, Pasteur, Adolphe Rosseau, Rachel, Mons, Martin Cahuzac, La Tulipe, Reine Hortense, Marie Lemoine,* and several others. To anyone familiar with Peonies it will be observed that there are some of the finest varieties obtainable in the above list.

Mr. Wm Anderson had a splendid collection of the following varieties: *Lady Alexander Duff, Therese, Reine Hortense, Loveliness, Mons. Martin Cahuzac, La France, Mary Brand, Martha Bulloch, Madam Augusta Dessert, Madam Jules Dessert, Aurora, Avalanche, Marie Crousse, Venus, Courrone d'Or* and many others.

Mr. D. W. C. Ruff furnished 27 large bunches of various colored blooms that were placed in cornucopias and hung on the walls entirely surrounding the exhibit. The beautiful marble seemed to add luster to the display and the light was ideal for showing off the flowers to their best advantage. Mr. Ruff's collection is too well known to make any comment other than to say that it consisted of many varieties of the finest sorts obtainable and was displayed in the best possible condition.

Entries were made in eleven classes for the advanced amateurs and in eight classes for the novice amateurs. The fine feature of this exhibition was the large number of entries made by various amateurs, some of whom possess splendid collections. Among the first prize winners were noted the following names: C. W. Bunn, A. C. Arny, A. E. Greaza, S. L. Titus, Frank Morris, A. F. McBride, Gus D. Messing, R. H. Relf, J. W. James, Margaret Henry, Warren Hoff, Frank Wickman, I. J. Swan and Mrs. P. F. Casey.

The first Iris show, which is to be an annual event, was held on June 8th and 9th in the Northwestern Bank, Minneapolis, Minn., as described in the American Iris Society department in this issue.

Being a member of the 1st Minnesota Field Artillery the writer was called to National Guard Encampment June 5th to 19th and as a consequence did not get an opportunity to visit the various Peony fields that had been previously planned for, in fact was not permitted to enjoy my own garden. This was certainly a bitter pill to swallow but there was no alternative, and I took my medicine with the rest. At any other period of the year it would haved proved a delightful outing in addition to the splended military training received in camp. We are hopeful that another year may prove more favorable and that the intense heat and down-pours experienced when the Peony was in the height of bloom this season may be missing.

THE IRIS.

Spanish Irises for Cut Flowers.

I read in THE FLOWER GROWER about the man who wants to grow Spanish Irises for cut flowers. If I were he I would grow only the following as those are not the most expensive and make good stems and large flowers, but they are not the very cheapest either. For yellows I would take:

Cajanus—Very tall and clear, late.
Chrysolora—Not as tall, for midseason.
Bell Chinoise—A little shorter, early.

WHITE.

Queen Wilhelmina—Tall and the earliest of all.
British Queen—Is a little later.
Blanche a fleur or *Snowball*—Late.

BLUE.

King of the Blues—The best of all blues.
Darling—Early dark blue, but not too tall.

LIGHT PINK OR LAVENDER OR LIGHT BLUE.

Philomela—Cheap but good and tall.
Louise—Very good.
Flora—Extra fine, the finest of all Spanish Irises.

Dutch Irises are almost identical to Spanish Irises, but earlier.

Rembrandt—Blue.
Anton Mauve—Mauve, (are the two best.)

Of course there are plenty more but those are the best I could recommend, and I have grown Spanish Irises by the millions. In fact a million labeled bulbs were nothing to us each season. If a bronze variety is wanted take *Thunderbolt*, as this is very handsome, tall and large, and *Reconnaissance*, is also very good but often substituted by a poorer bronze variety. All the varieties offered may be tried, but in the long run the above mentioned are the only ones to buy, as they are good for forcing, too.

As for the newer varieties of the Spanish Irises, there are three which are worth trying:

L' Unique—White and dark blue, very distinct.
Longfellow—Very tall, light blue and large flowers.
Walter T. Ware—Light yellow and large.

But I don't know whether these would be better payers than the other varieties for cut flowers as those first mentioned are hard to beat for that purpose.

About the Dutch Iris, I only mentioned two varieties, as I know they are fine, but there are many newer kinds introduced since I left Holland, and I could not very well tell about those as I have never seen them. Then there is another species: Iris Filefolia, very early, same flowers and bulbs as the Spanish Iris and very large flowers, especially the true type which is a good blue color, but there are also many seedlings now, but I don't consider them much improved. Be sure to get them planted early in the fall and protect them a little from frost with hay or straw. And get top roots, as they don't cost much anyhow, but of course the bulbs will be higher now than a few years ago. JOHN ZEESTRATEN.

A Visit to Mr. Fryer's Iris Collection.

Just how far a man is justified in going to see a collection of flowers depends largely upon his enthusiasm and his experience in seeing collections other than his own. For in seeing collections one should always take into consideration the conditions under which they are grown. Failure to do this often causes us to err in our judgment and gives us disappointment.

No better opportunity or manner to study the conditions under which a collection is grown can be had than by motoring to the place and observing the plant life along the road side and the climate and soil which contribute to their abundance. For this reason, in accepting Mr. Fryer's invitation to see his seedling Iris in bloom, I preferred to drive three hundred miles to his very interesting and beautiful grounds near Mantorville, Minnesota. Arriving there at the height of the blooming season gave a rare opportunity to judge some six hundred varieties which Mr. Fryer has saved from the many thousands of seedlings which he has grown. There is every evidence that he has had very clear and high ideals in his selections. Not attempting artificial hybridizing he has saved the seed from natural crossing of choice varieties. From the offspring of these he has saved only those showing quality. Transplanting these to rows where they are under his constant observation he has studied them daily and during the flowering period he visits them many times each day. If after further study he considers a variety of sufficient merit to meet his high standard it is named and saved to be propagated for the trade. In all his selections he considers that the plant must be a strong, clean grower, must not be a shy bloomer and must hold its flower stalk and individual flowers in a satisfactory manner. There is no danger that a Fryer seedling will be a weak plant or a shy bloomer. Indeed many of the seedlings which are thrown out by Mr. Fryer would meet with the approval of Iris growers especially if grown under other conditions than those of the trial grounds.

While Minnesota is ideal for germinating perennial seedlings, the long hard winters, the heavy snow fall and tardy springs have a tendency to weaken plants so that there is a heavy loss from rotting during and following the flowering season. For this reason Mr. Fryer does not grow so many of the standard Iris which are to be found elsewhere.

Of his named varieties those showing his "Glory Strain" are of exceptional merit. All these show bronze and copper shading tinged up to crimson and red. *Fryer's Glory, Dr. Andrist* and *Madison Cooper* were especially pleasing to the writer.

He also has a number of new tall Irises of the pallida type ranging in color from lavender to purple with orange and gold beards. One of these, an exceptionally strong plant and large flower, he has named *Big Ben*. Another named *Miss Irish* is very tall—nearly four feet of good clear color and velvety finish in both standards and falls.

With so many varieties to compare it might be said by some that the variations are not sufficiently distinct, but to a grower and to one acquainted with the flowers the variation is always apparent and in this collection every variety has distinction because the owner has a marked conception of harmony in color as well as an appreciation of value in strong contrasts between standards and falls.

Mr. Fryer has a large collection of standard varieties of Irises, Peonies, Phloxes, Gladioli and Delphiniums as well as seedlings of each.

The writer feels well repaid in visiting him, in seeing his well kept grounds and he hopes that the flower growers and flower lovers will more often avail themselves of his cordial invitation which he extends to all to see his collection.

ARTHUR E. RAPP.

The index for Volume VI (1919) of THE FLOWER GROWER is now ready. Those wanting the index for Volume VI can have it by remitting 10c. in stamps. We are compelled to make this charge because every economy is necessary to enable us to hold the yearly subscription price of THE FLOWER GROWER at $1.00 per year, and the cost of printing the index is, in common with all other printing, extremely high now.

THE PEONY.

Hints from a Practical Peony Grower.

How a Modest Investment was Made to Pay a Good Annual Income—Valuable Suggestions for Selection of Varieties, Planting, Culture and Propagation.

"FIVE YEARS AGO I invested $8 in Peony roots, and for the past three years have cleared in the neighborhood of $100 a year from them," said a woman whose Peonies are the admiration of the part of Long Island where she lives, speaking to an interviewer from the New York Times. "The best of it is that I not only haven't disturbed my original Peony roots but have improved them.

"My love for Peonies began some ten years ago when a neighbor who had sold her place told me I might have the Peonies in her front yard if I cared to move them. There were two large bunches, a pink and a red.

"I planted them in our front yard, where my mother's pet Rose bushes had always reigned supreme. When once those Peonies recovered from the transplanting and began to bloom nobody ever noticed the Roses. Having room to spread out I invested in new varieties. Having invested I proceeded to try to make the investment pay.

"To begin with I sold only the blossoms, then having so many demands for roots I began to experiment. Knowing that Peonies hate to have their roots divided I determined to try a method of propagation I had once seen at a florist's.

"Early in the spring, before the Peonies had begun to show any signs of growth, I placed a bottomless box about fourteen inches deep around one of my oldest plants. Then I filled this box with rich, porous soil and waited. The new growth of the Peonies pushed through this soil, forming foliage and flowers above it.

"In the latter part of September I carefully removed this new earth and cut away the new stalks from the old plants. These stalks were cut into as many pieces as there were eyes provided with roots and planted immediately. The next year they had grown into fine strong plants which I promised to purchasers a month before it was time to take them up.

"My largest Peony bed is 20 by 42 feet. During the season just passed I cut and sold from it upward of nine hundred beautiful blossoms.

"The whole bed was under an extra layer of soil just as the bunch I have described. Next week I shall take all this extra earth away, and cutting the new stalks from the old plant, set out what will be my next season's crop of roots. For these roots I get half a dollar each, and think them well worth it, as they grow into fine blooming stock in less time than a root cut from an old plant would require.

"In my opinion the Peony is the best hardy flower that we have. It is larger than the Rose and has as wide a range of color. The blossoms last longer, the plant is much hardier and easier to cultivate. It is free from thorns and almost free from insect enemies and diseases.

"They are remarkably long lived, and when once established should not be moved oftener than once in twenty years, so I have been told by experienced florists. The culture is very simple and the planting time is the latter half of September or the first week in October.

"Dig a trench three feet deep and fill in with plenty of well rotted cow manure. Plant the tubers about four feet apart and from three to five inches below the surface. Pack in the earth firmly but carefully so as not to bruise or injure the tender roots.

In selecting a position you should be careful to avoid drips and also situations where the plants would be whipped by the wind. In the spring the large plants will tend to droop, and for the looks of the bed and to preserve the blossoms they should have a good support. The most satisfactory support that I have found is a hoop about two feet in diameter with a loop in one end and a hook in the other and three legs. This support is made of galvanized wire and the legs sharpened so that they may be easily stuck into the ground.

"When the loop is too large for the plant it is a simple matter to lap and tie it. This gives a perfect support, and one that cannot be seen twenty feet away.

"Spring planting of Peonies has never brought me good results. Keeping the little tubers over until the spring seems to make them faint from fasting and it requires months instead of weeks for them to recover.

"Peonies planted in the autumn will give a few blossoms the next summer, and should do much better the second season. As a rule, however, it takes three years before a Peony gives a perfect flower and plenty of them.

"During the first two years the blossoms are often not characteristic either in size or color. Unless I make a point of impressing this fact on my customers they are more than apt to come back at me the next season with the complaint that I did not sell them the variety bargained for.

"The best way to buy Peonies is to visit a large nursery when Peonies are in bloom. Then you can pick out your varieties, and if the nurseryman is not already overstocked with orders he will promise you what you want. I always advise against buying a great variety. The same amount of money invested in two or three varieties, buying as many and as large roots as can be had, will give much more satisfaction.

"The most important distinction among Peonies is between the double and the single. In making selections it is well to remember that a single Peony lasts only three days while a double flower will last a week. The best of Peony bushes remain in bloom only three or four weeks, but there are so many varieties blooming at different times that where one has the space one can have blossoms most of the season.

"After deciding between the double and single varieties the next most important point for the amateur to consider is the size and color. While there is not much chance for color discord in Peonies a mixed bed planted in a prominent position will give a spotted effect, while one or two colors in the same situation will be a thing of beauty and a joy to all who see it.

"Peonies look best when planted in long, broad lines with a background of shrubbery. Where one cannot have a long line the bed should be deep enough to make a solid mass of color.

"As Peonies are naturally a large flower and do not lose by being made large, there seems hardly any reason for raising a flower under six inches in diameter. I try always to force my blossoms to eight inches, and for that reason get a good sale for the cut flowers.

"As a Peony bed is bound to look bare the first year I am strongly in favor of putting in other plants, for that season at least. Pansies or any other shallow rooted plants set in between the Peonies give a good result.

"In my own beds I have both yellow trumpet Daffodils and Lilies. This gives three crops of blooms from the same beds and the insignificant foliage of both Daffodils and Lilies is completely hidden by that of the Peonies.

"It should be remembered that while shade is not necessary for the perfection of Peonies the hot noonday sun will fade the blossoms. For that reason I cut the flowers intended for use every morning before the rays of the sun become intense. I put them in water, being careful not to pack them too closely, and then they are ready for use at any hour of the day ordered."

Hints on Seedling Peonies.

With good culture, and good room, seedlings may make bloom the fourth year, possibly the third; mine did not. I had sown seeds like radish seed, then had to go over and drill in more to get all in the rows allotted me, not dreaming what troubles and pleasures I was getting into, "As ye sow, so shall ye reap." I think every seed grew, their seed leaves near touching.

Soon as ground was in condition to work, I began thinning them, and kept it up annually because they increased in size faster than I could find room for them, until I left the home in March, 1914. First were transplanted by the trowelful without disturbing their roots. The third year a new row was made. When they began to bloom the least desirable were lifted out, and that weeding out was kept up to give the better ones better room without being disturbed. The best named were never moved, until lifted to ship them to California. As the clumps became too crowded I divided off and planted where others had been removed. But even that in time had to be discontinued, and it was then I gave to friends and neighbors liberally. That, too, comes to an end, and 'twas then I appealed to florists to relieve me of my large surplus. I no more thought of destroying any than of throwing away my pennies when my purse would hold no more dollars.

It seems I have said: "Any boy or girl can do as well." I will change that, any one can do immensely better: First, by not planting until danger of a hard freeze is past, and plant seed a few inches apart, as for beans, then give good culture. They must have every other one taken out the next spring. Fall would do as well, but the little tops are dead, and most folks do not garden in the fall, and spring does just as well. Then never let them crowd.

Sarah A. Pleas.

Peonies—Good Sorts the Only Ones to Grow.

With us that grand variety, *Festiva maxima*, is just at its best, and we have no other of which we think more, or which brings us better returns. The one thing hard to understand is why so many growers carry along, from year to year, a lot of undesirable colors, sorts which are absolutely worthless. We see them dumped Spring after Spring on the market, and the grower does not realize anything for them, so long as there are better ones to be had; yet he keeps on propagating and growing them when there are so many beautiful ones to be had at reasonable prices; varieties such as *Festiva maxima*, which is a favorite with every lover of Peonies. While we may differ as to the extent of damage done to a Peony plant when you cut the stems of the flowers down near the ground, the plants surely cannot be benefited by such treatment; therefore, use all the care possible in doing this work; let as much of the stem remain on the plant as you can without depreciating the value of the flowers. Of course, if it means obtaining a fancy price for extra long-stemmed flowers, one should not be too particular. Do not make the mistake so many make and let the plants suffer after you are through with the flowers; if you have good sorts which furnish both plants to sell in Fall and Spring and a good crop of flowers, they are well worthy of your best attention at all times. Keep the cultivator going every week; and if you have a little manure to work into the surface to keep it mellow and open, so much the better. It keeps the weeds out, and what you cannot reach with the horse cultivator can be reached with the hoe. It is wonderful what an amount of neglect a Peony can stand; how they will struggle along and give good flowers, even when the plants are surrounded by Grass or hard pan clay; but if you want to get the most out of them, they need as much attention as any other plant you grow, and the man who gives it to them finds them a paying crop.

Florists' Exchange.

An experienced Peony grower suggests that August is the time to secure and plant Peony seed. If planted at this time it will not dry out and it should sprout the next spring, whereas if it is allowed to dry it will take a year longer.

Successful Ways with Pansies.

By Paul L. Ward (Michigan.)

[*Written expressly for The Flower Grower.*]

It is not perhaps too much to say that the Pansy (viola tricolor) is our most universally loved flower. I have yet to meet the person who loves any flower who does not pause before this, the flower with a face.

The writer grows many varieties of plants and flowers, but if compelled to give up all but one, the Pansy would be the chosen one. Its cheery face peeps through the last snows of Winter, petals at times stained by frost but the first flower to greet us nevertheless; and as the dull December days come, I can still pick the occasional brave Pansy and note the folded buds that will remain through the frozen months to come forth at the slightest opportunity. Again, in blazing July and August, I can go to my Pansy beds and fill baskets to overflowing with beautiful long stemmed flowers. Truly it suits all seasons and all people.

But our Pansy is a whimsical beauty. She rewards with overflowing blessings those who bestow the needed care; is niggardly and pines away on the treatment that would suffice for many other kinds of plants; and it is that I may perhaps help some who desire to grow this flower in all its abundant beauty, I offer a few suggestions.

Like other flowers, there are strains, and strains. Seedsmen one and all proclaim in type both large and small that they have the finest, largest flowering types in the world. I have found a few that made good. All Pansies are beautiful, some are beautiful beyond description. It gives us all colors, but is chary of red shades. You may have beds of pure yellow, pure white, nearly pure self blues, blacks, wine shades, striped, variegated, blotched, margined, ruffled or smooth. Years ago I obtained a strain of Pansies from a house making a specialty of giant bloom, and have been able to keep them large and even improve on the original. I save my own seed each year, trying out the new introductions as they come and often go.

To secure the early spring bloom, we sow the seed in light, friable soil in late August. As soon as the second true leaf appears, and the plant can be handled, it is transplanted to either a shallow box with light rich soil, or a cold frame. If to the cold frame and it is to winter there, set six inches apart each away. Cold frames have a bad habit of filling up with weeds when you least expect it and you need lots of space to work between the rows with a narrow hoe. In boxes put one and one-half inches each way and as soon as they crowd the least bit, transplant to their blooming quarters. This should be in October. Cover but lightly with broken straw; never anything that will mat over the tops of the plants. Remove covering in March. If you would like to see your Pansies in bloom a little while before they freeze up, plant in late July. The seed bed must have abundant air, never dry out and be protected from the sun from nine to five each day. I have raised the strongest seedlings by sowing broadcast and two feet over the bed making a thatch of green maple limbs which let just enough sunlight filter through to keep them sturdy.

For summer blooming you must start the seed indoors in February and handle exactly the same way, transplanting once to flats and later to blooming quarters. Plants grown this way will commence flowering in late May and if kept picked, thoroughly cultivated and watered, will bloom well all summer. Pansies will not succeed in anything but rich soil, or anywhere but in full sun or nearly so.

When your seedlings commence to bloom, the first plants will have the smallest flowers. It seems that the last plants to bloom in a given lot will be the best. Also plants from seed started say in March and April will not produce giant flowers before fall. During the summer they will bloom, of course, extreme heat forcing them to that, but the flowers will be small to medium in size, no matter how good the strain may be; but if taken care of they will make a renewed start in September and fall all over themselves to make up for lost time.

Pansy flowers appear one after another at the end of a branch, which branch constantly increases in length. To keep your plant in bounds cut back half way or more these branches as they become too long to look well. To do their best Pansies should not be permitted to bloom until the plant has at least twenty leaves. Pull up and throw away plants that will not branch but insist on growing tree form. If they all do it, get your seed somewhere else and try again. By all means do not be without a bed of Pansies throughout the open months. Plant three times a year, February, July and August and you need never be without them.

Note—old seed, older than nine months, will not come up except very sparingly. Insist on new crop seed.

The Lovely Madonna Lily.

[*Written expressly for The Flower Grower.*]

Late in August or early in September is the ideal time for making plantings of the Madonna Lily (Lilium Candidum), one of the sweetest, loveliest and most desirable of garden Lilies.

The bulbs of this Lily which are ready for planting earlier than most of the other varieties, should be set into the ground immediately upon the receipt of the bulbs, as exposure to light and air has a tendency to wither the fleshy scales composing the bulb and so lessen the vitality.

This fragant, chaste Lily, sometimes called the Annunciation Lily, is readily grown under the proper conditions. It requires early planting in order to have an opportunity to become well established before freezing weather sets in. Injury to the bulbs from summer drought and winter forcing to the surface, may be lessened by planting the bulbs from six to eight inches deep. Though the well-drained soil should be enriched, no fresh fertilizer should come in direct contact with the Candidum bulbs. Setting the bulbs in a layer of sharp sand or surrounding them with Spagnum moss will provide against trouble from this source.

The Candidum is perfectly hardy and if not frequently disturbed will soon form a large clump which will bear in June and July, fragrant, waxy flowers of purest white. When the clumps grow too compact for free blooming, they may be successfully separated during the month of August.

This attractive Lily (known to our grandmothers, I believe, as St. Joseph's Lily and Sweet June Garden Lily) was much in evidence in old-fashioned gardens and cemeteries and though the Candidum seemed to be especially liable to a Lily blight which prevailed a number of years ago, most of these old time clumps passed through the trying ordeal unscathed. On account of its susceptibility to the disease, the growing of Candidum was for a time curtailed, but in late years the blight being under control, the Madonna Lily has regained its merited popularity and every modern garden should possess at least one well-grown clump of the magnificent Lilium Candidum, the sweetest, purest hardy Lily under cultivation.

Bertha Berbert-Hammond.

To those who fully appreciate the garden value of the Dahlia, it is a matter of satisfaction to know that once more the flower appears to be attaining the high degree of popularity it so well merits. The increased appreciation is due to the hybridizers of the present day having broken away from the traditions of the past and directed their energy to the production of varieties specially adapted for beautifying the garden. The flower is equally suitable for the gardens of stately mansions and the smaller plot that surrounds the humbler cottages.—Geo. Gordon.

We have never seen a greater growing time here than during the six weeks ending August 1st.

THE ROSE

Hardy Roses and Their Culture.

By Geo. Norris in *Southern Florist.*

THERE is no flower more popular or better known than the Rose. A garden without Roses would be incomplete at the present day. The most important considerations in the formation of a Rose garden are those of soil and position. In choosing a location for Roses outside, an open spot with an east or southern exposure, and sheltered from the northwest by tall trees or buildings is best. There the Roses would get the full benefit of the sun, and at the same time would be sheltered from strong winds. The soil should be a rich, deep loam, well drained. Light sandy or gravelly soil, or cold, wet, heavy clay soils are not suitable. For light soils a good dressing of heavy loam and cow-dung would be beneficial. For heavy soils leaf mold, horse manure and wood ashes should be added. For ordinary soils nothing is better than a mulching of cow manure in the winter. The best time for planting is early in the spring as it is possible to get the ground ready, although Roses growing in pots can be transplanted almost at any time. September and October are two good months for planting Roses before the winter sets in. I have often planted Roses from the greenhouse benches in June and had very good results from them in the fall. No manure should come in direct contact with the roots. In planting the strong growing varieties a space of about 2 feet 6 inches between the rows and 2 feet apart in the rows will give plenty of room. The weaker growing kinds can be planted closer, 15 to 18 inches apart being about the right distance. All Roses should be pruned when they are planted.

In pruning we cut away certain portions of the wood to allow room for the better development of shoots which will produce flowers. This work is done early in spring, just before the plants start into growth. The weak growing varieties may be pruned to three or four eyes from the ground, but the stronger growing kinds should be left much longer, 6 to 10 inches of the previous year's wood could be left. Always prune to an outside eye or bud. The more tender varieties of Tea Roses should be left until the last; about the middle of April is a good time to prune them. In pruning climbing Roses all that is necessary is to cut out the old and useless wood in summer just after they have finished flowering. This will help the plant to make good, strong growths which will produce an abundance of flowers the following season. In the spring the shoots or laterals can be cut back and the long growths shorted also. After the work of pruning is done, the ground should be cleaned up, all prunings raked up and burned. Keep the surface of the soil stirred up and cultivated. The Rose is propagated by seeds, cuttings, budding and grafting, but I am not going into details as regards propagating in this paper. I will merely say that the best way to grow Roses from cuttings is to select partly ripened wood early in the fall, say September, and insert the cuttings in sand in a frame or in the greenhouse. When the cuttings are rooted they should be potted up into two and a quarter inch pots and kept in the greenhouse. When these pots are filled with roots a further shift into 4-inch pots will be necessary. Many varieties of Hybrid Tea Roses do well on their own roots. Others are better when they are budded on briar and manetti stock. Roses are subject to a great many diseases and insect pests. For greenfly a good spray of whale oil soap, about one pound to eight gallons of water, to which about an ounce of nicotine has been added, Aphine and X. L. All are all very good insecticides for keeping down greenfly, thrips, red spider, etc. For caterpillars, dust powdered helebore on early in the morning when the leaves are wet with dew. If there are any Rose bugs, nothing is better than to cover the plants every day and pick them off, putting in a can or jar containing some kerosene or gasoline. For mildew dust with grape dust, when the foliage is wet, or spray with Fungine or copper solution. The above fungicides are also good for preventing black spots, rust, etc. To get extra fine blooms of Tea, Hybrid Tea and Hybrid Perpetual Roses, disbudding should be done as early as possible, retaining only the center bud on each shoot. Some varieties are liable to burn when growing in the full sun, especially the dark red varieties. If these are planted where they will get a little shade during the hottest part of the day they will be all the better. During the summer Roses will need watering often when the weather is hot and dry. The plants should be gone over in July and all dead flowers removed, and also any suckers that come up from the root. Keep the ground well cultivated at this time, so as to conserve the moisture.

About the end of November or early December, before the ground freezes up, I go over my Roses and any long growths I shorten back to about three or four feet from the ground, then I see that the ground is clean and all dead leaves are raked up. The more tender varieties are pegged down in the rows and the soil drawn up over them so as to completely cover the stems, The hardier kinds are not pegged down as it is not necessary, but the soil is drawn up around the stems, covering them to a depth of six to eight inches. Then between the rows I put a mulching of good manure and on top of that a covering of litter and leaves, putting it well around the plants. With that protection tender varieties come through our winters in good condition. The strong sun in the months of February and March, with the temperature going down to zero at nights, does a lot of damage to Roses if they are not properly protected. In a Rose garden where the Roses are planted too close together to allow the earth to be drawn up around the stems, give a good covering of leaves and litter or salt hay, putting some branches or boughs on top to keep the leaves from blowing away. As soon as the warm weather comes in spring, the coverings should be removed and the soil leveled or dug over, burying the manure that was put on in the fall. The plants can then be pruned and put in shape for another year in the way I have already mentioned. Below I give a few of the best varieties of Roses to grow. Among the Hybrid Teas we have *Killarney*, a beautiful pink Rose, a fine bedding variety and a free bloomer. *White Killarney* is one of the best white Roses for bedding or for cut flowers. *Killarney Brilliant* should also have a place in the garden. *Madam Abel Chatenay* is a beautiful carmine Rose, shaded with salmon, and a good free bloomer. *Madame Caroline Testout* is a fine satiny pink and a free bloomer. *Lady Pirrie* is a splendid Rose, the color is a deep coppery yellow and a free grower. The *Lyon* Rose is one of the best yellows grown. *Sunburst* is another good yellow Rose. *Willomere, Mrs. Aaron Ward Radiance, Ophelia, Lady Alice Stanley, Laurent Carle, My Maryland.* Some of the best hardy Hybrid Perpetual Roses are *Mrs. John Laing, Captain Christy, Frau Karl Druschki, Paul Neyron, Clio, Alfred Colomb, Ulrich Brunner, Baroness Rothschild, Gloire Lyonnaise,* and *George Arends* the pink, *Frau Karl Druschki.*

Among the hardy climbing Roses, *Americna Pillar* is one of great beauty. The flowers are of enormous size, single, three to four inches across, deep pink, with a clear white eye, and borne in great profusion on strong stems. The flowers are followed by bright red hips or berries which are very attractive in the autumn. *Crimson Rambler* needs no description as it is well known to everybody. *Paul's Carmine Pillar* is a beautiful single Rose with large, showy flowers. *Dorothy Perkins* is a soft pink Rose, lasts a long time in bloom and is one of the best. *Hiawatha* is a brilliant climbing Rose. The deep carmine flowers are 1½ inches across, with a clear white eye; in the center is a mass of yellow stamens. The flowers are produced in large clusters, which make a great show. *Climbing American Beauty* is a Rose that should not be forgotten, as its perfectly double blooms are very fragrant and last a long time. The foliage is a rich deep green and free from mildew. The plant is a strong grower and very hardy. *Silver Moon* is a Rose with large pure white flowers 4½ inches across. The yellow stamens in the center make it extremely attractive. The plant is a strong grower with beautiful glossy foliage. *Ramanas* or *Rugosa* Roses are in a class by themselves. They are very hardy and form nice bushes. Apart from their beautiful foliage they are very attractive in the autumn, when they are covered with bright red seedpods.

Fragrance in Roses.

From an article by Dr. Van Fleet in the *American Rose Annual* for 1919.

Agreeable fragrance is one of the most valued attributes of the perfect Rose, though many indispensable species and varieties do not possess it in marked degree, and not a few are either odorless or even distasteful to the sense of smell.

The Wild Roses of North Europe mostly have faint fragrance or are scentless and the same may be said of our Middle West and Pacific Coast species, though there are a few exceptions in the extreme Northwest. *R. setigera*, the scentless Prairie Rose, is a characteristic example of the lack of fragrance of the Rose species of our interior country.

The violet-like odor of *R. Banksiae* may be mentioned. It is faint, but it will be recognized when thousands of blooms are expanded at the same time. The cinnamon odor ascribed to *R. cinnamomea* and kindred species has never materialized in the blooms or foliage of any of the plants I am familiar with. The cinnamon idea is rather associated with the color of the twigs.

The Rose varieties used for the purpose in all the countries concerned in perfume production are, mostly hybrids of *R. centifolia* and *R. gallica*, the former predominating where quality, and the latter where quantity is most highly appreciated.

The fragrance of our garden and exhibition Roses, comes from the hybridization of *R. chinensis*, a species naturally of faint fragrance, with *R. gallica*, of Europe, giving rise to the deliciously scented Hybrid Perpetuals of old gardens, and, by the crossing of these with *R. odorata*, to the immensely popular Hybrid Teas, some of which are intensely fragrant. Tea Roses themselves have their own characteristic fragrance, and this blends well with heavier *centifolia* odor, rising occasionally to the highest pitch of pungent sweetness. The blend of tea-scent with muskiness in some of the dwarf Polyanthas is agreeable, but the *centifolia* fragrance is rarely brought out in hybrids between *R. multiflora* and those carrying *centifolia* odors.

An experienced nurseryman in the north recommends June-grass sod for covering Roses and tender plants during winter. The covering should be put on when everything is quite dry.

American Rose Society

Cornell Rose Test Garden Pilgrimage.

A LARGE number of the members of the Rose Societies of Auburn, Rochester and Syracuse motored to Ithaca, June 30, to inspect the Roses in the test garden of the American Rose Society on the grounds of the Department of Floriculture of Cornell University. The Roses were in splendid condition and the visitors expressed themselves as highly pleased with their trip. After lunch at the Home Economics Building the visiting Rosarians proceeded to the garden where they gathered under the shade of a large tree while Professor A. E. White delivered a short address welcoming the visitors to Ithaca and telling them of the work of the other test gardens of the American Rose Society. He was followed by Dr. A. C. Beal who spoke on the classification of Roses and the special work of the Cornell test garden. Mr. Hubbard described the methods of winter protection employed in the garden. Dr. A. C. Fraser demonstrated the method of preparing the flowers and applying the pollen in pollenating Roses. The visitors spent the afternoon inspecting the various species and varieties that were in bloom. At the field office punch was served by the feminine members of the staff and the wives of the professors.

The Rose pilgrimage was held on the first of the three days of the first Summer Farmers' Week of the College of Agriculture which brought thousands of country people to Ithaca to view the experimental plots of the College and Experiment Station. Large numbers of these visited the Rose garden, and also the Peony Plantation, as the flowers in the latter were in splendid condition this year because of the late season. In this manner a foundation was laid for an ever increasing interest in the outdoor flower trials of the department. Most of the farmers who visited the gardens had never seen the Rose Garden and did not know that anything like it was carried on in Central New York. Next year many others will motor through the beautiful Finger Lakes Country on their annual pilgrimage to the prettiest spot in all this favored land of natural beauty—the Rose Garden.

Some Notable Varieties.

Lieutenant Chaure (Pernet-Ducher 1910) velvety crimson-red, exceptionally fine, hardy Rose.

Red Letter Day (A. Dickson, 1914) unusually vigorous, tall growing, semi-double, brilliant scarlet-crimson. Its cactus-like flowers retain the pleasing color under all conditions. *K of K* is said to be an improvement on this but thus far we fail to see it and instead *K of K* lacks vigor.

Chrisie MacKellar (A. Dickson, 1913) a bedding Rose of rare merit. Very free and continuous bloomer. Has pointed buds of orange and crimson, and semi-double flowers of a beautiful orange-pink.

Duchess of Sutherland (A. Dickson, 1912) among the light pink double Roses the merits of this variety appear to have been overlooked. Two lots of plants in different beds both show the same valuable qualities. A warm Rose pink.

Gladys Holland (McGredy, 1917) a salmon-pink of very large size, good form, some flowers being seven inches in diameter. A good grower.

Mme. Hector Leuillot (Pernet-Ducher, 1904). This is usually classed as a climbing H. T., but like many others of that class it is not so vigorous that it cannot be used for bedding. A very large deep salmon-yellow.

Ulster Gem (H. Dickson, 1916). A large primrose-yellow single Hybrid Tea Rose with prominent deep yellow anthers. A worthy companion of *Simplicity* which has always been the best white single H. T. in the garden. *Isobel* continues to lead the pink singles.

Golden Spray (H. Dickson, 1917). This promises to be the one of the best of the new yellows.

Willowmere (Pernet-Ducher, 1913). This variety continues to lead the salmon-pink Roses of its class.

Danea (Pemberton, 1913). This Hybrid Musk Rose, deserves to be more generally known. It is an unusually free bloomer and continues on the strong shoots sent up from the base. The buds are rich yellow but the flowers are a cream white. Although a semi-climber this appears to best advantage as a bedding Rose.

Among the polyanthas, or baby ramblers *White Baby Tausendschon* and *Baby Elegance* are two that are worthy of a place in any garden.

Not many of the climbers were in bloom but among the early bloomers were noted the following:

Paul's Scarlet Climber (W. Paul, 1916). This Rose wherever we have observed it has been in splendid condition this year. At Ithaca its merits have been verified in other seasons. Its glorious color and long keeping qualities while on the plant are two of its merits.

Aviator Bleriot (Fauque, 1910). This Rose in bud, or flower is a decided attraction to a garden. Its orange and yellow buds are very beautiful.

Rugosa repens alba (Paul, 1900). A pure white flowered Hybrid Rugosa with very free blooming qualities and a trailing habit. For covering banks or boulders this Rose deserves to be better known as it remains a long time in bloom and is much earlier than *Rosa Wichuraiana.*

Seashell (Dawson, 1916). A large, beautiful, single, pink variety.

Purity, Christine Wright and *Climbing American Beauty* were magnificent pillars of bloom where grown on posts. These three are indispensable.

A. C. Beal.

The Garden Days at the Hartford and Cornell Rose Test Gardens were delightful ones. At Hartford on June 25th, while the Roses were not fully in flower there were enough attractive varieties to make an interesting exhibit. The attendance was disappointing. However, the majority of rosarians near Hartford are frequent visitors in the garden and doubtless will visit it when the varieties are at their best. The hospitality of the park department in the entertainment of the guests was all that could be desired. A bountiful lunch was provided by G. R. Parker, Supt. of Parks and Alex. Cumming, Chairman of the Hartford Rose Test garden Committee did everything possible to make the day profitable and enjoyable.

At Ithaca the Roseday on June 30th was planned to coincide with the first of three days set for Farmer's Field Days at the College of Agriculture. Aside from the delegates from the Auburn, Syracuse and Rochester Rose Societies, hundreds of New Yorkers thronged the Rose and Peony gardens during the three days and many remarks appreciative of the beauty of both areas were heard. Surely this was a splendid object lesson to the visitors of the beauty of the Rose. Detailed reports of these two meetings will be made by the chairmen of the Rose test garden committees.

REGISTRATIONS.

The following varieties have been accepted by the Rose registration committee of the Society and unless objections are received by the Secretary within three weeks of this publication the registrations will become permanent.

Name—*White Ophelia.*
Class—Hybrid Tea.
Parentage—*Sport of Ophelia.*
Description—The plant is similar to the parent with abundant foliage but stronger growth. The color is white tinted with pink in center, very fragrant and with more petals than the parent. It is also a more robust grower.

Offered for registration by The Cleveland Cut Flower Co., Cleveland, Ohio.

Name—*Oregon Ophelia.*
Class—Hybrid Tea.
Parentage—*Sport of Ophelia.*
Description—The flower is similar in shape to Ophelia, light pink in color shading to yellow at base. Fifty-six petals. It is tall growing and hardy having withstood zero weather unprotected. Prolific, having produced 127 blooms outdoors during 1919.

The foliage is practically disease proof and because of the increased number of petals the flower holds its shape longer.

Offered for registration by Clarke Bros., Portland, Oregon.

E. A. White, Secy.

Manuring.

For all practical purposes in allotment cropping, the best organic manure that can be applied to the soil is farmyard manure. This contains the elements that are necessary for the proper development of the various plants, and carries the plant nourishment in the most easily assimilated form. Owing to the displacement of horses by motor and other forms of vehicular traffic, it is becoming increasingly difficult to obtain farmyard and similar manure. Therefore, care should be taken to collect together all leaves possible and stack them. To this heap should be added all kinds of garden waste, road-scrapings (avoiding those from tarred roads), shoddy, cotton-waste, waste leather, and similar things of a like nature, that will decay and assist in soil fertilizing.

Those living within easy distance of the sea can obtain a good substitute for farmyard manure in the form of Seaweed. It should be applied in a fresh state to lands of light texture, and in a half-decayed state to heavy texture soils. Farmyard manure mainly from the pig-sty or cowsheds should be applied to light soils, whilst long stable litter, (*i.e.,* horse-dung with straw bedding material) will act best on heavy ground.

All the soot and wood ashes that can be secured should be utilized, being carefully stored till required, and added to the surface of the land as a dressing in the coming spring. Old gardens benefit greatly by a rest from the usual manuring, receiving instead a good trenching and a liberal dressing of lime and wood ashes.—*Gardening Illustrated.*

The difficulties of taking flowers to a flower show and properly staging them are greatly magnified by most flower growers. Necessarily it needs some considerable experience to know just what to do and how to get the best results. It is a simple matter to cut a few Gladioli, for instance, stand them in water for several hours, pack them tightly and wrap carefully in paper and carry them with you to the show. The stems may be covered with waterproof paper, or oilcloth, to prevent wetting through the wrapper. Don't cut with more than one open bloom, especially in warm weather.

Annual Gladiolus Show

of the

American Gladiolus Society, The Massachusetts Gladiolus Society, The Massachusetts Horticultural Society.

THE eleventh annual exhibition of the American Gladiolus Society will be held coincident with the first annual exhibition of the Massachusetts Gladiolus Society and the regular annual Gladiolus exhibition of the Massachusetts Horticultural Society.

We are pleased to be able to present herewith prize schedules of all three organizations which we believe to be complete. The schedule of the Massachusetts Gladiolus Society has already been issued by Robert R. Walker, Secretary, Mansfield, Mass., and this contains the Gladiolus prize offers of the Massachusetts Horticultural Society. The prize list of the American Gladiolus Society has not at this writing been issued, but copies can doubtless be had by the time the August issue of THE FLOWER GROWER is in the hands of our subscribers by addressing Prof. A. C. Beal, Secretary, Ithaca, N. Y.

Announcement of the time and place of the annual meeting of the American Gladiolus Society will be made later, but it will doubtless be held in Horticultural Hall. This is also probably true of the annual meeting of the Massachusetts Gladiolus Society.

American Gladiolus Society.

SCHEDULE OF PRIZES.

OPEN TO ALL.

No. 1—Best 12 varieties, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00.

" 2—Best 12 vases, 12 varieties, 1 spike each, 1st prize, $6.00; 2nd prize, $3.00.

" 3—Best collection White varieties, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00.

" 4—Best collection Pink or Blush varieties, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00.

" 5—Best collection Yellow varieties, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00.

" 6—Best collection Crimson or Red varieties, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00.

" 7—Best collection Blue, Purple or Lavender varieties, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00.

" 8—Best collection any other colors, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00.

" 9—Collections Nos. 3 to 8 inclusive, provided the same exhibitor shows not less than 25 varieties, will be judged for Best Collection. First prize, Silver Medal; 2nd prize, Bronze Medal; 3rd prize, Certificate.

" 10—Best Seedling Gladiolus never before exhibited. American Gladiolus Society's medals. First prize, Silver Medal; 2nd prize, Bronze Medal; 3rd prize, Certificate.

H. E. Meader, Dover, N. H.

No. 11—Best 6 spikes *Lilywhite*. First prize $5; second prize, $3; third prize, $2.

W. Atlee Burpee & Co., Philadelphia, Penna.

No. 12—Largest and best display, number varieties, quality and staging considered. Burpee Cup valued at $25. The winner taking this cup the third time to hold it permanently.

Arthur A. Kirchhoff, Pembroke, N.Y.

No. 13—Best 6 spikes *General Pershing*. First prize, Silver Medal; second prize, Bronze Medal.

No. 14—Best 6 spikes *Gloxinia*. First prize, $4; 2nd prize, $3.

No. 15—Best 3 spikes *Professor A. C. Beal*. First prize, $3; second prize, $2.

W. E. Fryer, Mantorville, Minn.

No. 16—Best 10 spikes, *Mrs. W. E. Fryer*. First prize, 100 corms of that variety; second prize, 50 corms same.

C. Zeestraten, Bemus Point, N. Y.

No. 17—Most artistically arranged vase or center piece of not less than 50 spikes of Gladiolus Primulinus. First prize, $10; second prize, $5.

Tait Brothers Company, Brunswick, Ga.

No. 18—Best 3 spikes Seedling, never before shown. First prize, $5; second prize, $3.

M. F. Wright & Daughter, Sturgis, Mich.

No. 19—Best 3 spikes *Louise*. First prize $10.00; second prize $6.00; third prize $4.00.

Richard Diener Company, Kentfield, Cal.

		1st	2nd
No. 20—	Best spike *Mrs. Wm. Kent*	$3.00	$2.00
No. 21—	" " *Anna Eberius*	3.00	2.00
No. 22—	" " *Diener's American Beauty*	3.00	2.00
No. 23—	" " *Jack London*	3.00	2.00
No. 24—	" " *Richard Diener*	3.00	2.00
No. 25—	" " *Thomas T. Kent*	3.00	2.00
No. 26—	" " *Diener's White*	3.00	2.00
No. 27—	" " *Mrs. H. E. Bothin*	3.00	2.00
No. 28—	" " *Mr. H. A. Hyde*	3.00	2.00
No. 29—	" " *Mrs. John A. Walsh*	3.00	2.00

P. Vos & Son, Mount Clemens, Mich.

No. 30—Best 3 spikes *Maine*. First prize, $15.00; second prize, $10.00; third prize, $5.00.

Homer F. Chase, Wilton, N. H.

No. 31—Best 6 spikes *Christine M. Kelway*. First prize, $5.00; second prize, 20 bulbs of that variety.

United Bulb Co., Mount Clemens, Mich.

No. 32—Best collection of Blue Gladioli not to exceed 5 vases, 3 spikes to the vase. First prize, $15; second prize, $10.

No. 33—Best collection of Yellow Gladioli not to exceed 5 vases, 3 spikes to the vase. First prize, $15; second prize, $10.

A. E. Kunderd, Goshen, Ind.

No. 34—Largest and finest collection of Kunderd varieties of Gladioli. First prize, Gold Medal; 2nd prize, twenty dollars' value in choice Gladiolus bulbs; third prize, fifteen dollars' value in choice bulbs.

No. 35—Best display of Kunderd Primulinus Hybrids, not less than ten varieties, 3 spikes in each variety, 1 variety in a vase. First prize, fifteen dollars' value in choice Gladiolus bulbs.

No. 36—Best display of the finest spike of any Kunderd variety. First prize, five dollars' value in choice Gladiolus bulbs.

Joe Coleman, Ravenna, Ohio.

Fottler, Fiske, Rawson Co., Boston, Mass.

No. 37—Center-piece not more than 18 spikes grown and arranged by the exhibitor. First prize, $10; 2nd prize, $5.

A. H. Austin Co., Wayland, Ohio.

No. 38—The largest and best display of the Austin originations. First prize, $5; 2nd prize, Bronze Medal; 3rd prize, $2.

The R. E. Huntington Co., Mentor, Ohio.

No. 39—Best spike *Purple Glory*. First prize, $2.50; 2nd prize, $1.50; 3rd prize, $1.

No. 40—Best 2 spikes *White Glory*. First prize, $2.50; 2nd prize, $1.50; 3rd prize, $1.

No. 41—Best 3 spikes *Orange Glory*. First prize, $2.50; 2nd prize, $1.50; 3rd prize, $1.

FOR NON-COMMERCIAL GROWERS.

No. 51—Best collection 10 named varieties, 3 spikes each vase. First prize, $10; 2nd prize, $5.

No. 52—Best collection 5 named varieties, 3 spikes each vase. First prize, $5; 2nd prize, $3.

No. 53—Best collection 10 named varieties, 1 spike each vase. First prize, $7.50; 2nd prize, $4.

No. 54—Best collection 5 named varieties, 1 spike each vase. First, $4; 2nd, $2.50.

Note Exhibitors may not compete for both 51 and 52, or for 53 and 54.

No. 55—Six spikes, White, one variety named. First prize, $5; 2nd prize, $2.50.

No. 56—Six spikes, Yellow, one variety named. First prize, $5; 2nd prize, $2.50.

No. 57—Six spikes, Pink or Blush, one variety named. First prize, $5; 2nd prize, $2.50.

No. 58—Six spikes, Crimson or Red, one variety named. First prize, $5; 2nd prize, $2.50.

No. 59—Six spikes, Blue, purple or Lavender, one variety named. First prize, $5; 2nd prize, $2.50.

No. 60—Six spikes any other color, one variety named. First prize, $5; 2nd prize, $2.50.

No. 61—Three spikes, White, one variety named First prize $3; 2nd prize, $2.

No. 62—Three spikes, Yellow, one variety named. First prize, $3; 2nd prize, $2.

No. 63—Three spikes, Pink or Blush, one variety named. First prize, $3; 2nd prize, $2.

No 64—Three spikes, Crimson or Red, one variety named. First prize, $3; 2nd prize, $2.

No. 65—Three spikes, Blue, Purple or Lavender, one variety named. First prize, $3; 2nd prize, $2.

No. 66—Three spikes, any other color, one variety named. First prize, $3; 2nd prize, $2.

No. 67—Best exhibit of at least 10 varieties Primulinus Hybrids correctly named, 3 spikes each. American Gladiolus Society's medals. First prize, Silver Medal; 2nd prize, Bronze Medal.

T. A. Havemeyer, New York, N. Y.

No. 68—Best vase 10 spikes *Primulinus Hybrids*, Orange. First prize, $5; second prize, $3.

No. 69—Best vase 10 spikes *Primulinus Hybrids*, Yellow. First prize, $5; second prize, $3.

No. 70—Best vase 10 spikes *Primulinus Hybrids*, any other color. First prize, $5; second prize, $3.

Arthur A. Kirchhoff, Pembroke, N. Y.

No. 71—Best 6 spikes *General Pershing*. First prize, cut-glass vase, value $10; second prize, $5 cash.

No. 72—Best 6 spikes *Prof. A. C. Beal*. First prize, $2; second prize, $1.

No. 73—Best 6 spikes *Gloxinia*. First prize, $3; second prize, $2.

W. E. Fryer, Mantorville, Minn.

No. 74—Best 10 spikes *Mrs. W. E. Fryer*. First prize, stock to the value of $5; second prize, same for $4; third prize same for $3. The stock to be selected from his catalogue.

Carter's Tested Seeds, Boston, Mass.

No. 75—Best 3 vases of white, deep pink and red Gladioli, each containing 12 spikes of bloom. First prize, $5; second prize $3.

Henry F. Michell Co., Philadelphia, Penna.

No. 76—Largest and best display. First prize, Michell Silver Medal; second prize, Michell Bronze Medal.

Tait Brothers Company, Brunswick, Ga.

No. 77—Best 5 spikes *Anna Eberius*. First prize, $5; second prize, $3.

Arthur Cowee, Berlin, N. Y.

No. 78—Largest and best display of *Primulinus Hybrids*. Offers as a prize 100 extra selected *Primulinus Hybrids*.

C. I. Hunt, Nunda, N. Y.

No. 79—Best six vases, six varieties, one spike each. First prize, $3; second prize, $2.

Charles F. Fairbanks, Boston, Mass.

No. 80—Best vase 10 spikes, Pink——one variety. First prize, $6; 2nd prize, $2 50.

No. 81—Best vase 10 spikes, Red and Crimson, one variety. First prize $6; 2nd prize, $2.50.

No. 82—Best vase 10 spikes, Yellow, one variety. First prize, $6; 2nd prize, $2.50.

No. 83—Best vase 10 spikes, White, one variety. First prize, $6; 2nd prize, $2.50.

No. 84—Best vase 10 spikes, Blue, Purple or Lavender, one variety, $6; 2nd prize, $2.50.

No. 85—Best vase 10 spikes, any other color. First prize, $6; 2nd prize, $2.50.

Emma E. Patterson, Burlington, Wis.

No. 86—Center-piece not more than 18 spikes grown and arranged by the exhibitor (any foliage may be used). First prize, $10.

H. E. Meader, Dover, N. H.

No. 87—Best three spikes *Lilywhite*. First prize, $3; 2nd prize, $2.

The R. E. Huntington Co., Mentor, Ohio.

No. 88—Best spike *Purple Glory*. First prize, $2.50; 2nd prize, $1.50; 3rd prize, $1.

No. 89—Best 2 spikes, *White Glory*. First prize, $2.50; 2nd prize, $1.50; 3rd prize, $1.

No. 90—Best 3 spikes *Orange Glory*. First prize, $2.50; 2nd prize, $1.50; 3rd prize. $1.

Garden Magazine, Garden City, N. Y.

No. 91—The Garden Magazine Achievement Medal for the finest quality of bloom in the Non-Commercial Classes. Exhibitors showing less than 25 spikes not to be considered.

The Massachusetts Gladiolus Society.

SCHEDULE OF PRIZES.

OPEN TO ALL.

Charles F. Fairbanks, Lexington.

No. 1—Best collection, 25 varieties, 3 spikes each First, $5; second, $3; third, $2., and The American Gladiolus Society Silver Medal to first; Bronze Medal to second.

No. 2 Best collection, 12 varieties, 3 spikes each. First, $4; second, $2; third, $1.

(Must have distinct varieties to compete in both of the above classes.)

No. 3—3 vases, 3 spikes, 3 varieties, Ruffled. First, $4; second, $2; third, $1.

No. 4 1 vase, 6 spikes, 1 variety, Lavender or Mauve. First, $3; second $2; third, $1.

No. 5- 1 vase, 6 spikes, 1 variety, Pink with blotch. First, $3; second, $2; third $1.

No. 6—1 vase, 6 spikes, 1 variety, Primulinus Hybrid Orange. First, $4; second, $2; third. $1.

No. 7—1 vase, 6 spikes, 1 variety, Primulinus Hybrid Yellow. First, $4; second, $2; third, $1.

No. 8—1 vase, 6 spikes, 1 variety, Primulinus Hybrid Pink. First, $4; second, $2; third, $1.

No. 9 1 vase, 6 spikes, 1 variety, Primulinus Hybrid A. O. C. First, $4; second, $2; third, $1.

No. 10—Best seedling not in commerce. The American Gladiolus Society Medal. First prize, Silver Medal; second prize, Bronze Medal.

No. 11—Best Primulinus seedling not in commerce. First prize, Silver Medal; second prize, Bronze Medal.

SPECIALS.

Jelle Roos, Concord.

(Open also to florists.)

No. 12- Best vase, 3 varieties, 3 spikes each, arranged for effect, any foliage. First prize, Silver Medal; second prize, Bronze Medal; third prize, Bronze Medal.

No. 13 Best vase, 25 spikes. Primulinus Hybrids. Not more than 5 spikes of a variety, First prize, $5; second prize, $3; third prize, $2.

C. W. Brown, Ashland.

No. 14—Best collection of Reds, 1 spike each. Not less than 10 varieties. First prize, $5; second prize, $3; third prize, $2.

Joseph Breck & Sons Corp.

No. 15 Best vase, 6 spikes, 1 variety, White.
Best vase, 6 spikes, 1 variety, shades of Yellow or Orange.
Best vase, 6 spikes, 1 variety, Lavender or Purple.
First prize, $5; second prize, $3; third prize, $2.

S. E. Spencer, Woburn.

No. 16—Best vase 6 spikes, *Schwaben*. First prize, $3; second prize, $2.

J. K. Alexander, E. Bridgewater.

No. 17—Best vase, 12 spikes, *Peace*. First prize, $5; second prize, $3; third prize, $2.

Arthur Hans, Billerica.

No. 18—Best vase, 12 spikes, *America*. First prize, $5; second prize, $3; third prize, $2.

John Zeestraten, Mansfield.

No. 19—Best vase, 6 spikes, *Panama*. First prize, $5; second prize, $3; third prize, $2.

Robert R. Walker, Mansfield.

No. 20—Best vase, 6 spikes, *Prince of Wales*. First prize, $5; second prize, $3; third prize, $2.

F. H. Goodwin, Melrose.

No. 21 - Best vase, 6 spikes, *Europa*. First prize, $3; second prize, $2; third prize, $1.

B. Hammond Tracy, Inc., Wenham.

(Open also to florists)

No. 22—Best Table Decoration using Gladioli with other foliage. Cut Glass Bowl, value $15.

Carter's Tested Seeds, Inc., Boston.

No. 23—Best 3 vases, 3 varieties, 6 spikes each, Pink. First prize, $5; second prize, $3.

Penn the Florist, Boston.

No. 24—Best 12 spikes, *Mrs. Watt* Nice Cut Glass Basket.

FOR AMATEURS AND PRIVATE GARDENERS.

Charles F. Fairbanks, Lexington.

No. 25 6 vases, 1 spike each, 1 or more varieties, White. First prize, $3; second prize, $2; third prize $1.

No. 26—6 vases, 1 spike each, 1 or more varieties, Pink. First prize, $3; second prize, $2; third prize, $1.

No. 27—6 vases, 1 spike each, 1 or more varieties, Red. First prize, $3; second prize, $2; third prize, $1.

No. 28—6 vases, 1 spike each, 1 or more varieties, Yellow. First prize, $3; second prize, $2; third prize, $1.

No. 29—6 vases, 1 spike each, 1 or more varieties, A. O. C. First prize, $3; second prize, $2; third prize, $1.

No. 30—6 vases, 1 spike each, 1 or more varieties, Primulinus Hybrid. First prize, $3; second prize $2; third prize, $1.

SPECIALS.

A. L. Stephen.

No. 31—Silver Medal, for the best quality of bloom in the above classes.

R. & J. Farquhar & Co., Boston.

No. 32 Best vase, 6 spikes, 1 or more varieties, arranged for effect, any foliage may be used. First prize, $6; second prize, $4.

Thomas Cogger, Melrose.

No. 33—Best 6 spikes, *Helen Franklin*. First prize, $3; second prize, $2.

The Massachusetts Horticultural Society.

SCHEDULE OF PRIZES.

OPEN TO ALL.

Hillcrest Farm.

No. 237—1 vase, 6 spikes, 1 variety, White. First prize, $4; 2nd, $2; 3rd, $1.

No. 238—1 vase, 6 spikes. 1 variety, Red. First prize, $4; 2nd, $2; 3rd, $1.

No. 239—1 vase, 6 spikes, 1 variety, Crimson. First prize, $4; 2nd, $2; 3rd, $1.

No. 240—1 vase, 6 spikes, 1 variety, Pink. First prize, $4; 2nd, $2; 3rd, $1.

No, 241—1 vase, 6 spikes, 1 variety, Yellow. First prize, $4; 2nd, $2; 3rd, $1.

No. 242—1 vase, 6 spikes, 1 variety, A. O. C. First prize, $4; 2nd, $2; 3rd, $1.

No. 243—1 vase, 6 spikes, 1 variety, any Lemoinei Hybrid. First prize, $4; 2nd, $2; 3rd, $1.

No. 244—1 vase, 6 spikes, 1 variety, any Primulinus Hybrid. First prize, $4; 2nd, $2; 3rd, $1.

No. 245—6 vases, 1 spike each, 6 varieties. First prize, $4; 2nd, $2; 3rd, $1.

No. 246—Best Display. First prize, $15; 2nd, $10; 3rd, $5.

FOR AMATEURS AND PRIVATE GARDENERS.

S. E. Spencer, Woburn.

No. 250—Best vase, 6 spikes, *Mrs. Frank Pendleton*. First prize, $3; 2nd, $2.

H. E. Meader, Dover, N. H.

No. 251—Best vase, 6 spikes, *Myrtle*—Cut Glass Vase, value $10,

Jelle Roos, Concord.

No. 252—Best vase, 6 spikes, *Mrs. Dr. Norton*—Silver Cup.

No. 253—Best vase, 12 spikes, *Mary Fennell*—Silver Cup.

A. L. Stephen, Waban.

No. 254—Best 10 vases, 10 varieties, 1 spike each. First prize, $3; 2nd, $2; 3rd, $1.

The above prize lists are the most complete and attractive that have ever been offered. The shows will all be held in one place and at the same time and there is no reason why those who have blooms in good shape for exhibition should not make entries. Exhibiting flowers at a flower show is most educational, and it will enable any grower to compare his results with those of other growers. Send in your entries early to enable the secretaries to straighten out the classes.

F. C. HORNBERGER
Hamburg, N.Y.
Grower of Gladioli
Mrs. Dr. Norton, Golden Measure, Lilywhite, Wales, Herada and 50 other extra select Gladioli. We are booking orders for fall delivery, retail and wholesale.

CLASSIFIED ADVERTISING.

Five lines (about 40 words) $1.50 per insertion. Additional lines 20c. each.

GLADIOLI

"SAY IT WITH FLOWERS?"—Certainly, but let the flowers be Gladioli. I ship anywhere, up to 4th zone, large box postpaid, $1.25. Bulbs wholesale—retail—in season. Choice new kinds.
C. I. Hunt, Nunda, N Y

EAST HARTFORD GLADIOLUS CO. We will book orders for fall delivery, 1920 or spring 1921, by the dozen or the thousand. E. M. Smith, Pres. and Mgr., No. 65 Olmsted St., East Hartford, Conn.

IRISES

5000 Pallida Dalmatica (true to name.) 2000 Rheine Nixe, also choice lot of best named varieties of Iris for sale.
F. Wentink, Salisbury Mills, N.Y.

STRONG Plants at following prices—Monsignor, $20 per 100; Nibelungen, Her Majesty, Dalmatica, Maori King, Purple King, Dr. Berenice, Mrs. H. Darwin, at $8 per 100; Halfdan, $10. I grow all the best Iris. Look up my winnings at the Minneapolis show.
A. C. Arny, 2115 Dudley St., St. Paul, Minn.

WILL TRADE Surplus garden stock of Iris, Archeveque, Isolene, Monsignor, Eldorado, Iris King, Tamerlane, Lorely, Mary Garden, Shelford Chieftan, Mrs. Neubronner, Princess Victoria Louise, Rheinixe, Quaker Lady, Louis Trowbridge, Wyomissing, Red Cloud, Powhatan, Blue Jay and many others; for rare plants, bulbs or trees. Also large stock of Miss Lingard and Independence Phlox to trade. Correspondence solicited. Douglas Pattison, Freeport, Ill.

OUR August Iris Offer—We have a plot of ground that must be cleared of Iris this fall and I will make the astounding offer of $3 a hundred by express for these Irises. In mixture only, but including at least ten of Pallida. Ward, Plantsman, Hillsdale, Michigan.

MISCELLANEOUS

LANDSCAPE GARDENING—A practical course by mail. Colored illustrations. Beautify Home Grounds. Endorsed by leading Nurserymen and Florists. Write for Prospectus. American Landscape School, 2 N, Newark, N. Y.

LABELS—Patent, paper, trees, shrub or rose label. Colors: white, green, blue and salmon. Plain or printed. A cure for those afflicted with label troubles. Samples. Ohio Nursery Co., Elyria, Ohio.

A TIME for Everything—Peony seed should be planted in August—mixed seed, 50c. oz.; selected seed, $1 oz. White lily bulbs should be set in August—Large bulbs $2.50 per doz., second size $2.00 per doz. Add postage. Mrs. Wm. Crawford, La Porte, Ind.

WOULDN'T you like to grow some truly giant-flowering Pansy plants from seed? I'll tell you how and send you a package of the best seed in America, my own growing, for 25c. The originator of an unsurpassed strain of giant flowering, long stemmed Pansies. P. L. Ward, Hillsdale, Michigan.

PEONY ROOTS for Fall delivery. Wholesale and retail. ' J. F. Munsell, Ashtabula, Ohio.

DARWIN TULIP BULBS—"Made in America." Grown right here at Boulder, by myself, on my own place. Been growing 'em for years. They deliver the goods—a bloom in every bulb. Crop just harvested. Bulbs looking fine this year. Can make early delivery—long before the Holland shipments arrive. Have named varieties and fine mixture. Price list ready in September. Drop a card today for your copy. (Glads coming on fine, too, thank you. More about the Glads later.)
J. D. Long, Boulder, Colorado.

HARDY LARKSPUR SEED—From extra select specimens of the Gold Medal hybrids, which is the finest strain in the world. Plants up to five feet high, double and single flowers—300 seeds only 50c.—Light, dark or mixed shades of blue. Ward, Plantsman, Hillsdale, Mich.

NARCISSUS or Jonquil bulbs, bedding size, and sure to bloom, 30 for $1, mailed postpaid, cash with order. Varieties are Sir Watkins and Emperor. I want to buy Lily Candidum (Madonna Lily) bulbs. Hugh C. Schmitt, Evansville, Ind.

COLD STORAGE—The Editor of THE FLOWER GROWER makes a business of furnishing plans for cold storage plants and also contracts the equipment for same. We handle all kinds, big and little.
MADISON COOPER CO., Calcium, N.Y.

Queries and Answers Department.

"All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication."

Root Lice on Gladiolus Corms.

To the Editor:—

The past two seasons, at just about planting time, my Gladioli have become badly infested with root lice. When harvested the corms appeared to be perfectly clean and healthy. I believe these root lice were introduced through a shipment of corms from one or two dealers last spring. These corms were cleaned by removal of the husk and washing before planting, but undoubtedly some eggs were still present when planted.

Nearly my entire collection, about 90 per cent, were literally covered with the lice and on cleaning about one-ninth of these had dried up. Just about a month ago the corms were free of the lice. I have had to take time off from work in order to wash my collection of about a thousand corms in hopes of saving most of them. So many have been badly impaired in vitality that I expect a very poor showing of bloom.

What brought my attention to the condition of my Gladioli was due to the presence of a small black fly, which I have since been given to understand were the final stage in the life history of root lice, the lice every two years becoming flies. They were so thick in the room in which I kept my Gladioli, and having no good explanation for their presence led me to examine my Gladioli again, with the result as reported. I got rid of the flies by fumigating with burning aphis punk, a tobacco preparation.

Now that I have freed my corms of the root lice, what should I do to rid my garden of the pest, for I believe there will be a repetition of the infestation if the soil is not also cleaned.

Would a generous application of tobacco stems to the surface of the soil after the growth appears above ground be efficacious? How about the use of a spray for the surface of nicotine sulphate, "Black Leaf 40?" Would the latter injure the corms?

Chas. E. F. Gersdorff.

Any of our readers who can supply information which will be helpful in connection with the above inquiry are asked to please write fully as this trouble has been reported several times before.—Editor.

Origin of Gladioli.

One of our subscribers wants to know the introducers of the following varieties of Gladioli:

Adeline Fatti.
Alice Carey.
Apollo.
Black Hawk.
Dominion (other than Groff.)
Fire King.
Golden West.
Goliath.
Hohenzollern.
Liebesfeuer.
Mrs. Jas. Lancashire
Mont Blanc.
Prince of Wales.
Red Emperor.
Summer (a mauve listed by Black.)
White Cluster.
White Excelsior.
White Giant.

We will be glad to print full information along this line if any of our subscribers can furnish it.

Germination of Gladiolus Bulblets left in the Ground over Winter.

To the Editor:—

Do Gladiolus growers experience trouble about bulblets left over in the soil coming up the next year? I have several thousand coming up in my last year's bed, also small bulbs.

It was very cold here (Minnesota) last year, and the ground was not plowed until this spring so the left over bulblets were only a few inches below the surface. This spring they were plowed under quite deeply, but they are coming up every day. F. B.

Answer:—Bulblets which are left in the ground at digging time in the fall will in many cases grow the next year unless frozen very hard during the winter. If the ground is well protected by snow the bulblets sometimes will not freeze at all. Other winters when hard freezing comes before much snow the vitality of bulblets is all destroyed.

The common way to avoid mixing through germination of bulblets left in the ground at digging time is to rotate Gladioli with some other crop. One year Gladioli, next year perhaps vegetables, or any hoed crop, and so on. But even this is not absolutely sure as bulblets have been known to remain in the ground and germinate the second year. It is better practice to rotate Gladioli with another crop on a three year rotation, to avoid mixing through the germination of volunteer bulblets.

Dividing Peonies in August.

To the Editor:—

Did you or any of your readers every divide large clumps of Peonies in August? We have a large lot of old plants that we wish to divide this fall, but with the rush of filling orders and not much help available we don't see how we can do it without we can do so in August. B. G.

Answer:—We would undertake to divide Peonies the last half of August, and if the season of growth had been good up to that time, would not hesitate to divide them the first half of August. Peonies make their growth mostly before July 1st, but, of course, they are rooting and forming new buds for the next year until freezing weather. The accepted month of September is the right time to divide Peonies, but as good results, possibly better, could be had by dividing in August, and, providing conditions were favorable, the divisions would get well established before freezing weather. If one were dividing and expecting good bloom the next year, August dividing ought to be the right thing, but a great deal depends on weather conditions during the growing season as well as weather conditions after dividing.

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The above are all selected stock, one year plants *not divisions*. Equal to some two year stocks. September and October delivery.

L. S. KNECHTEL, Athol, Mass.

Attention Society of American Florists, and Others Interested.

Inability to be in two places at once will prevent our showing at Boston. We will be in the trade exhibition at the S. A. F. convention at Cleveland with a fine collection of Gladioli, but space will permit of showing but a small part of our over six hundred varieties.

From August 1 on, our plantings of Gladioli and perennials will be in fine shape. We offer visitors a chance to see about every high priced Gladiolus in cultivation, over 20 acres of large bulbs planted, not to mention the smaller sizes in main commercial varieties.

Many traits of importance can be seen in the field that are not evident in the show vase. Come and see them—and us.

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THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

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FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
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The Golden Banded Lily.

[Written expressly for The Flower Grower.]

BY BERTHA BERBERT-HAMMOND.

NARCISSUS—*ALBA PLENA ODORATA.*

Mrs Wm. Crawford, who supplied us with the above illustration, writes as follows: "This is my favorite of the entire family. About the size of a white Carnation, with good stems, a good keeper, and very fragrant. We used a great number of them for Mothers' Day. They require a low situation where the ground will not dry out during blooming season, and will do well in partial shade. The last of the Narcissi to bloom, to me they are the best. We raise them by the thousands to fill the gap between the early varieties of Narcissi, the Tulips and the Iris."

THE Golden Banded Lily of Japan (Lilium Auratum) is generally conceded to be the most magnificent of all cultivated garden Lilies, and the praises of its great beauty are well deserved for it is, indeed, a splendid flower, possessing as it does, great size, fragrance and exquisite coloring. Its attractive, fragrant flowers, often measuring from eight to ten inches across, are ivory white, thickly spotted with rich crimson, a bright golden yellow band extending through the center of each petal.

With all its good points this desirable Lily is a stranger to the majority of gardens, for the Auratum is a capricious beauty and does not bestow its favors lightly. Not only amateurs but experienced growers have failed to obtain uniform success in its cultivation. After filling the soul with ecstacy for a season or two, without any tangible reason, the plant will sometimes fail to appear the following spring. Such an experience, though disappointing, should not prove discouraging, for to be able to establish one clump of the queenly Auratum Lilies, will more than repay for a dozen failures.

In the culture of the Auratum the bed should be deeply dug and have perfect drainage. The bulbs should be planted directly on a layer of sharp sand and covered with seven to eight inches of good garden loam. A top dressing of enriched earth may be helpful but to have the bulbs come in direct contact with fertilizing material is apt to prove injurious. As the Lily resents disturbance do not plant bulbs too closely together thus avoiding the necessity of having to transplant later. With the approach of freezing weather a light mulch may be used to advantage.

The Auratum takes quite kindly to pot-culture and by this method one has the advantage of being reasonably sure of at least, one season of bloom from this fickle but charming aristocrat. In the fall as soon as the plump bulb arrives from the seedsman, plant deeply in a generous size pot (8 or 10 in.) in which the matter of drainage has been well provided for. Put sand under the bulb and fill pot nearly full of good garden soil, and without watering set the pot away in a cool, dry cellar to rest until spring. About May when it begins to make active growth the pot may be set out of doors and the cultivation for summer flowering continued in the open, care being taken to guard against over watering, for this choice Lily, like a delicate child cannot endure having constantly wet feet. A Lily thus grown in a pot, when in bloom, may be readily moved about to lawn, porch or wherever needed for ornamentation. In the fall after foliage fades it may be returned to the cellar for its period of rest.

Auratum Lilies that are planted outdoors in the garden, do not require being taken up. A slight protection should carry them safely through the winter. These Lilies are practically hardy.

Add at least one Auratum to your bulb order, and as many more as your plant allowance will permit—yea—cull out some less desirable or more common bulb if you must, but get at least one choice Auratum bulb, and keep everlastingly at it each year until you have a Lily bed fit for a king, one that for its mingling of exquisite odors and combining of color cannot be surpassed.

To the heart that responsive to Nature's,
Is sweetly in tune,
Each Lily-bell, breeze-blown and swaying,
Rings out the glad rune.
If with soul and sense, ye can listen,
This the message they bring—
"Consider the Lilies; they toil not;
Yet never a king
Was arrayed in a robe of such richness
Or of texture so lustrous and fair;
And the love that provides for the Lilies,
For his children will tenderly care.
—*Alice R. Corson.*

Soil and Plant Habitat.

The botanist and the flower-gatherer soon come to recognize instinctively various plant habitat, partly from the mere looks of the place and partly from the conspicuous plants which grow there. So well known is this connection between the soil and the plants which inhabit it that we naturally expect to find certain species where we find other very different ones growing. Fern hunters in search of the adder's-tongue or the curly grass (*Schizaea*) often rely upon "call plants" growing with them to indicate their whereabouts. We do not expect hickory-nuts on every wooded hillside, nor strawberries in every field. It all depends upon the soil. This is also the reason we seldom find huckleberries, arbutus, laurel and the pink lady's slipper growing with trillium, bloodroot, phloxes, mandrake, and the like. Even the trees in whose shade these two groups of plants grow are different. With the first group we find pines and oaks and with the second basswood, ash and maple. We find, however, that the soil not only influences the character of the plants which grow in it, but the plants in turn influence the soil. The leaves of certain plants produce acids when they decay while others become alkaline. If the soil is calcareous, the acids may be neutralized and form habitats in which our ordinary plants can grow, but if the soil is acid only certain specialized plants can survive in it, such as the heaths, some of the orchids, the pitcher plant, sundew, and various others. Until recently the acid soils were supposed to be confined to the bogs, but it is now known that many upland soils may be acid and form peaty deposits similar to those in the bogs. This accounts for certain species of heaths living on hillsides. At present, the principal plants of the acid and alkaline soils are fairly well known, but the lesser species are not. It would be an interesting experiment to list the plants of two such regions and accurately determine which species are confined to each. Undoubtedly there are some that will grow in either, but the number is likely to be small in comparison with the list of those confined to one soil or the other.—*The American Botanist.*

The fairy story on this page entitled "The Naming of the Peonies," brings in some extremely interesting studies. That there are things in nature which cannot be seen but only sensed, those who are close students are perfectly willing to admit. There is doubtless much more in this fairy story than the average person can get from a casual reading.

The Naming of the Peonies.

(*A Story.*)

By BARNEY WESTHAWS.

[*Written expressly for The Flower Grower.*]

THE GARDENER of Thorniknowe was a venerable man by the story of the years, but he was as young as he was old. He was, as was fitting, in view of his vocation, a nature-lover, and also something of a sage and poet. And he was, of course, on intimate and friendly terms with the "little people," the fairy folk of garden, wood and stream.

The garden at Thorniknowe was devoted almost entirely to flowers, that is to plants and shrubs bearing beautiful blooms or of fine form and foliage; but the gardener's chief devotion was to the Peony, of which he had the best varieties in cultivation both of the herbaceous and of the Moutan, or Tree Peony.

Thorniknowe is located in the northern part of the Empire State; but it will not be found on any map. Indeed, it is a place with which maps and prosy literal descriptions have nothing to do; and this is as precise an account of it as is likely ever to be given.

The gardener of Thorniknowe had many friends sharing with him the love and joy of the flowers, some, indeed, whom he had never met, but who had become his friends through the little things he now and then wrote and which, by strangely winged transmission, had sometimes travelled far. One of these friends, with whom he maintained an informal correspondence, was a lady whose home was far away among the citrus groves of the Pacific coast.

Though this friend had never seen the garden from the gardener's references to it in his writings and letters she had such a vivid conception of it that she seemed to know it and to love it even as did the gardener himself; and she shared with him also a sort of mystical sense by which phases of the world usually regarded as distinct and antithetic are seen as correspondent and kindred, and by a larger comprehension the world of sense and the world of soul blend in one cosmic unity, the garden becoming the mirror and manifestation-point of the whole.

In the year whose happenings are being related the Peony season had opened with rich promise. The Tennifolias had revealed their dainty fringe-set floral forms, the Moutans unfolded their delicate nuances and expansive splendors, and the Officinalis Rubras spread their massive array of deep red blooms; and the earliests of the Albifloras were with undaunted and rejoicing pride holding high on as yet unbending stems their gorgeous effects. Finest consummations were assuringly forecast by this auspicious opening.

Something of all this incipient glory and promise in the Peony garden had been communicated by the gardener, with characteristic enthusiasm and touches of poetic idealism, to his friend in the West. Responding in like vein she had expressed a wish that the fairies would convey her to the garden and place her in the petalled bosom of the gardener's favorite Peony that she might with directer observance and fellowship share the garden's delights.

That she did not seriously mean this does not need to be said. It was but an outburst of exuberant fancy, a tribute of friendship, and an attestation of her deep communion with her friend in his garden cares and joys, clothed in strong hyperbole. It happened however that the Queen of the Fairies, who chanced to be near at the time, caught the lady's volatile utterance. Now the fairies have a way of taking people at their word and translating most fictile utterance into actual effect. Or is it that they see beneath the play of superficial fancy, view the inner springs of desire, and know the deep and true reality of those motions which seem but wind-blown ripples upon the surface of conscious life? At any rate, the Fairy Queen regarded the lady as meaning what she said and at once detailed a fairy entourage to convey her—a mere psychic presence, of course, intangible save to fairy senses—to the floral boudoir of her lightly expressed wish.

The tiny cavalcade, with great eclat, yet with a great sense of responsibility and privilege withal, started at once upon its enterprise. It did not, however, make a direct course to its destination, but zigzagged hither and thither, visiting many noted gentle places on the way; and great fairy junketings marked the days, or rather nights, of their progress across the continent. But they took care not to let the Peony season at Thorniknowe pass its height before their arrival. Also a swift courier was despatched to take a more direct route and apprise the fairies of Thorniknowe of the expedition that was afoot (or should it rather be said *awing?*) with the garden as its destination.

Great excitement and rare anticipation thrilled the little people of Thorniknowe at the intelligence, and they set themselves to eager and assiduous preparation for the event. They were soon all astir, and the air fairly throbbed with their pulsing intensity. As the gardener walked in his garden by night, which oft he did, as though finding communion with his flowers even when their forms were veiled, and as though the stars shone with a gentler radiance on the garden than elsewhere, the air seemed alive and palpitating. The busy little folk could hardly keep their secret. Indeed, they did not wholly keep it. Somehow the Peonies got an inkling of it, and it wrought an even deeper stir in flowerdom than it had in fairydom. Each Peony became passionately and hopefully ambitious to be the favored one to enshrine the looked-for visitant. The gardener had at one time or other encouraged each one with words of appreciation; and so each strove with eager zeal for the crowning honor.

This emulative struggle was especially intense among some seedlings which the gardener was cultivating with deeply interested and hopeful care. By cross-fertilization the finest strains were incorporated in the germinal bases of these plants, and great expectations were indulged now that with a stalwart growth they were coming to their first blooming. These seedlings felt that the honor of enshrining the lady belonged properly to them. They said, "We belong to Thorniknowe in the truest sense. Those others are from China, Japan, France, Holland, England and a few gardens in America, and are here mostly as immigrants. But we were born here, and have had our very breath and being in the garden of Thorniknowe. We truly represent the garden, and it must be ours to receive its most sacred trust and distinguishing honor." And along with their well based plea of nativity they put forth all their energies in the activities of growth and efflorescence, backing the claim of origin by special worthiness.

The lady, by the way, knew nothing of all this. She never definitely realized the vagrancy of her psychic presence, not finding it anything like so serious a matter as Peter Pan did the loss of his shadow. The only sign of it was a tendency to absent mindedness and a sense of being somewhere else as well as where she actually was. She dreamed much of fairies during this time both waking and sleeping; but this she ascribed to a fairy play she had witnessed, not even remembering her fanciful wish. She also thought much, and with vivid imagining, of flowers, their forms, colors, odors, and inarticulate poetry; but this she attributed to the influence of the season, the pageant of her daily walks, and her thought of what was going on in the garden at Thorniknowe.

The grand surprise and triumph of the Peony season at Thorniknowe was in the results achieved by two of the seedlings before spoken of. While the Peonies generally did well, beating their own records, and in some instances transcending the descriptions of the dealer's catalogues, these seedlings rivalled all the rest, and, in view of the fact that Peonies do not usually attain typical form until they have bloomed for several years, were the wonder and glory of the garden. One of the two bore ten primary blooms with many secondary ones, the primary blooms being of very full globular-rose form, reaching in two instances eight inches in diameter, and in color a pure white so intense as to make all other whites seem tinted. The other had three good primary blooms, one of the three being, however, much superior to the other two. This bloom would be classed as of the flat-rose type, very full and measuring seven inches in diameter, while its petals shortening sharply towards the center gave it a cyathiform, or cup-shaped effect and in color it was a rich mauve-rose, so delicate that it seemed a translated odor, a thing of subtle essence rather than of graduated pigments.

The interest and marvel of it all culminated in the naming of these two notable youngsters. By the demonstration of their remarkable attributes, endorsed by the tributes and enconiums of the two specialists and many amateurs who viewed them, they were clearly of the very nobility of the Peony race, and worthy of most noble and distinctive appellation; but that they should have received such unusual and sacrosanct designations as those actually given them was regarded as ascribable only to the peculiar idiosyncrasies of the gardener. That was, however, in ignorance of the secret history which this paper is for the first time relating.

The first of these seedlings, the wonderful white Peony, was named *Shechinah*, the name in Jewish story of the luminous cloud, the *dwelling of the presence*. Had the gardener by some occult power or divinatory intuition caught the fairies' secret, or did he name this transcendant floral form thus because it seemed to him in some sort a new epiphany of that ineffable presence which went before the Isrealitish host in their olden journeyings and overhung the mercy-seat of their tabernacled sanctuary, and that has led the hosts of the true and earnest-hearted in all heroic struggle for and progression towards the better things, and defined the sempiternal mercyseat of man's penitent, yearning and aspiring communion with God? It fitted both; and the conceptions are mergent. Earth's best ever touches heaven. The other seedling, the one with the mauve-rose bloom, was named, *Sangreal*, the name in Christian tradition of the sacred cup of the Saviour's valedictory supper with the disciples, in which also Joseph of Arimathea is believed to have caught the last life-drops from the Saviour's body on the cross; and that became the agent of such wonderful effects in later story. This name was perhaps suggested by the cup-like shape of the floral form. But deeper than this, there must have seemed to the gardener something intrinsically sacred in the flower and significant of the deep communions and vicarious devotions of holy love.

Thus, whether designedly or guided only by profound intuition and sensibility, the gardener named his two great flowers by designations which are symbolical of the two great ethical and redemptive cults of humanity, Judiasm and Christianity—the cult of the guiding and guarding Deity; and that of the vicarious passion of holy love, archetypal in the "cross and passion" of the Divine Man.

These names cannot be found in the catalogues of the Peony men. The gardener of Thorniknowe has not yet distributed the stock and perhaps never will. To see these flowers, therefore, it will be necessary to visit their garden home; and though there is no precise directory the garden will be found if sought aright. Love-inspired and visioned labor has wondrous wizardry. Communion with nature and collaboration in her processes convert thorny hills into Thorniknowe gardens where the presence and the cup are surely found. And pure, high friendship establishes communion in the things of the garden and in the things of the soul.

The lady remained serenely unaware of all the fairy business her lightly uttered wish had evoked, albeit she had thenceforward a haunting sense of a strange intimacy with the garden like the indelible memory of a vivid dream.

Which flower the lady's presence indued we shall never know; but it scarcely matters. Indeed, what matters it though fairy agency be entirely discredited! Communion in the love and joy of flowers and the influence of friendly interest upon their culture acting across three thousand miles of separating distance are facts as big and wonderful as anything that most marvelous fairy tale ever told. And fairy story may serve to open our dull discernment to the commonplace wonders of our lives.

The Darwin Tulip.

[*Written expressly for The Flower Grower.*]

Much of the adverse criticism of the early Tulips is due to the preponderance among them of gaudy or harsh colors which do not harmonize with the surrounding landscape.

Quite different are the Darwins with their rich tints including various shades of heliotrope, mauve, salmon-pink, maroon and deep crimson. The large flowers, which appear in May, are borne on strong stems two to two and a half feet high, and placed well above the foliage. If the flowers are cut as soon as they open, they will develop to perfection in the house, and last many days.

The culture of these Tulip is very simple. The bulbs should be planted during October or November in soil that has been previously enriched, placing them five to six inches deep and about four inches apart. No further care is required except the application of a cover after the ground has begun to freeze, and the removal of the cover in early spring. This cover may consist of coarse stable manure, or a layer of leaves, the object being to prevent alternate freezing and thawing in the Tulip bed, a condition which would disturb the roots at the base of the bulb.

When the blooming period is over, the bulbs are allowed to mature, a condition indicated by the yellowing of the leaves. They are then taken up and allowed to dry in the sun for a few days, after which they may be put away in a dry place to await re-planting in the fall. Or, if preferred, the bulbs may remain undisturbed and shallow, rooted annuals planted over them, care being taken to avoid injuring the bulbs while using the trowel.

Before the World War these and other bulbs were propagated in enormous quantities in the favorable soil of Holland, and sent to all parts of the civilized world, and though the shipments to this country are increasing since the cessation of hostilities, they are still much below normal.

H. S. TILLOTSON.

THE GLADIOLUS

Fragrance in Gladioli.

The genealogy of the modern Gladiolus is a complicated matter. Of the numerous wild species, mostly from Africa, there are twenty-two concerned in the development of the cultivated varieties. In this development hybridizers have been more concerned with the developing of color and size, with earliness and hardiness, than with the question of fragrance.

But there are several wild species of Gladioli possessing greater or less fragrance, and several of the earlier hybrids inherited the same quality, though it appears to have been lost in later developments. The fragrant species come from various parts of Cape Colony in Africa.

The blossoms of *G. tristis* are described as "sweet-scented from dusk to dawn." In this same species the variety *concolor*, like the type, is fragrant in the evening.

G. recurvus, the "violet-scented Gladiolus," appears to be the most fragrant of all. "The flowers are very fragrant, with a scent described by some writers as similar to that of Violets or Orris Root."

G. maculatus has an "extremely strong, almost narcotic scent, which is especially noticeable in the evening."

G. grandis, too, is sweet scented in the evening, and *G. cardinalis* is said to have a "fragrance of some Lilies."

From this ancestry it is not surprising that several fragrant hybrids have been produced.

G. Colvillei, originated in 1823 by a Mr. Colville at Chelsea, in England, is a hybrid between *G. cardinalis* and *tristis*, var. *concolor*, and has fragrant flowers.

G. fragrans is a hybrid between *G. recurvus* and *tristis*, raised by Dean Herbert. "The flowers are variegated and sweet-scented."

G. odoratus was also raised by Dean Herbert, and while not described as fragrant, the name would indicate at least some sort of odor.

The latest of these fragrant hybrids is *G. Victorialis*, which was offered in 1893 by Dammann, and is described as "somewhat scented."

This completes the list of fragrant Gladioli, both species and hybrids, so far as the information is at hand. And this rather meager information indicates that the possibilities in the development of the Gladiolus have not yet been exhausted. Fragrance may yet be added to the beauties of color and form exhibited in such endless variety by this favorite flower, but whether it would be an improvement or not is largely a matter of opinion, or of taste.

[Abstracted from Cornell Extension Bulletin 9, Gladiolus Studies I.]

THOMAS M. PROCTOR.

Wood ashes are said to be especially good for Cosmos and it is reported that this plant will utilize large quantities of wood ashes to advantage. It is worth trying.

The Flower Grower

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FOR BOTH AMATEUR AND PROFESSIONAL FLOWER GROWERS

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OUR MOTTO: *Special favors to none, and a square deal to all.*

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Growers are invited to contribute articles or notes over their own signatures, but the Editor reserves the right to reject anything which in his judgment is not conducive to the general welfare of the business.

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Vol. VII September, 1920 No. 9

"*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

"Let the Fellers Dig the Potatoes."

The above words were used by a lecturer who considered himself educated. His lecture was on "Brains." What he meant by the expression above was that the man who was trained and educated should not do manual labor. We are compelled to decidedly disagree with the learned gentleman. No man should feel that he is above doing manual labor, and there are hundreds of reasons why he should not feel above it, but also why he should actually perform manual labor daily.

The present condition of uncertainty, unrest and general demoralization in this country, (some will disagree with this statement perhaps) is caused by just exactly the idea expressed by the words above mentioned. The American people are too highly educated to work. The father of the writer, more than 25 years ago, asked the question: "Who will do the work when the present generation of our people are of age? We are educating the youngsters to become ladies and gentlemen and educating them in a way that they feel that they must not, and should not work." The vision and foresight thus expressed is worthy of the utmost respect and consideration.

We wonder if many people would be willing to make at the present time, a prognostication for the future 25 years. It seems to be altogether unsafe. It is hoped, however, that the strong middle class, of which we claim to be one, will maintain a balanced and steady influence which will carry us over the present troublous times without a calamity happening to humanity.

Again, we cannot refrain from suggesting that right education is the only remedy for the present conditions. Modern educational methods are spurious and superficial. They are not based on a true conception of the purposes for which the human race is placed on earth.

MADISON COOPER.

Help Save Yellowstone Park.

Not only conservationists and naturalists, but the people at large are strongly urged to join at once the forces of Dr. George Bird Grinnell, of New York, (a former editor of *Forest and Stream*) in opposing a bill introduced by Representative Smith, of Idaho, which contemplates the exploitation for commercial purposes and private gain, a part of the people's great national play-ground, matchless Yellowstone Park, which contains innumerable and incomparable natural wonders, is the greatest animal preserve in the world, the home of the moose, elk, deer, the nearly extinct American bison and other wild life.

This bill which threatens the rights of our own and of generations to come has already passed the United States Senate and been favorably reported by the Public Lands Committee of the House of Representatives. If allowed to become a law it will prove an opening wedge for the misuse of the national recreation grounds which were dedicated and set apart "As public pleasure grounds for the benefit and enjoyment of the people."

To render assistance to nullify this latest attempt to utilize for commercial purposes and private profit one of the most valuable possessions of the nation devolves as a patriotic duty on every public-spirited citizen of the United States.

BERTHA BERBERT-HAMMOND.

Longevity of Gladiolus Seed.

We have on our office table a paper bag containing Gladiolus seed. It has been there nearly five years, for it is 1915 seed. Since this seed was two years old, H. E. Meader, of Dover, N. H., has made a trial of it each year to demonstrate its germinating qualities. Although these trials have not been exact as to proportion of seeds germinating, Mr. Meader again reports this year that the seed germinated strongly although possibly a few days later than in former years. We hope to be able to continue the experiment. It is interesting to know how long Gladiolus seed may be expected to retain its vitality.

Do it Yourself.

As we have pointed out from time to time in these columns, those who have flowers to exhibit at the flower shows should attend to it themselves, and not expect to send flowers for someone else to stage. We were guilty of trying this just once and one experience was sufficient. The different organizations holding flower shows like to have a big display of bloom, there is no doubt about that, and they are not at all backward about promising to properly stage stock sent in their care. We think it is a grave mistake to make any such promise. No one can possibly look after flowers like the grower, and the grower should go with the flowers and look after them himself.

Again we repeat, don't send flowers to a flower show expecting them to be staged as well as you would stage them yourself.

MADISON COOPER.

THE FLOWER GROWER is a little late this month, but we have as an excuse getting in a practically full report of the big Boston show. Sorry we have not all of the prize winners in the non-commercial classes of the American Gladiolus Society, but expect to print these in the October issue. Owing to our time being so much taken up with the staging of our own flowers in about fifty different classes, we were not able to report the winning varieties as we would like to have done. Although the fact that a variety wins prizes at the flower shows does not necessarily put it in the highest class, yet it is at least prima facie evidence of its merit.

One of our advertisers complains of illegible writing on the part of those who ask for catalogues. People are so familiar with writing their own name that they get careless in this respect. Proper names should be written with extreme care, letter by letter, and especially if the name is unusual.

Odds and Ends In the Garden.

BY THE SIDE OF THE ROAD.

There are bits of garden lore hidden by many a roadside, hints that may give our gardens a new charm and yet how few of us, as we motor or stroll by, note these suggestions for future use in our plantings. We all of us tend too greatly to develop our home grounds along conventional lines, we fill in the low damp swale, raze the hillock and seek to bring the whole down to the same level with smooth lawns, clipt hedges, or regular beds of flowers as like those of our neighbers as we can achieve. With a house of stereotyped design this may prove the proper caper, but with our summer bungelow, or camp, or even a less architectual all-the-year-round house an individuality based on the natural lay of the land may be possible.

On the one hand we spend considerable cash for immediate effect, on the other is an expenditure of time and careful thought. Is there any real question as to which will produce the greatest amount of personal pleasure and pride in attainment?

Our land may be rich or poor, damp or dry, but from nature's own palette we may select colors in trees, or shrubs, or flowers, ones that will best adapt themselves to their new home. With these natives as a background we may add exotics from similar situations and give the whole that finished touch of perfection which man-made plantings should possess.

By the edge of the meadow there is, perhaps, a thick massing of shrubby growths, planted not in straight lines nor regular curves, but irregularly now forming promontories about the base of an isolated tree or standing alone to form a perfect specimen, or, with an opening to permit of a vista into the woods beyond, a vista that tempts one on to further exploration. There is a certain spaciousness in a bit of greensward winding behind a projecting outgrowth, a spaciousness that loses but little of its charm in miniature when we carry out the same principle at the edge of our bit of lawn. From nature also we may pattern our selection of companion plants, she is at her best when there is a predominance of one species; a grove of pines, of walnuts, of what you will, has an effect not to be found in the conglomeration of the new growth of a mixed hardwoods. Here also we see a pleasing variety of spacing, the trees may be close, tall and bare trunked, in clustered groups of uneven age, or may stand alone revealing their individual characteristics of development. Both in plan and in silhouette we like a certain amount of variety in outline.

With this general scheme in mind let us pass on to the minor incidents that in themselves form pictures. Mere snapshots I will give you.

A tall red cedar, formal in smooth lines, a mass of out-reaching sumac, one of the most tropical looking of our northern shrubs, and below a creeping mat of spreading junipers; with an undergrowth of lavender Mat Pink (*Phlox subulata*) perhaps a plant of the Flame Azalea (*calendulacea*) or a group of Lilies for still later bloom we have a planting suited to the poor soil of a little rock outcrop.

On even poorer, gravelly soil there is a copse of locusts, a thin undergrowth of Bush Clover and St. Johnswort, scattered plants of wild Lupins, Asters, or, where the sun is welcomed, Bouncing Bet, Chicory, or Sweet Fern. Many of these in themselves are not desirable but they are suggestive. We may have the Bush Clover, *Lespedeza Sieboldi* with its rosy-pink pea shaped flowers in September or the yellow *penduliflorum*, the Rose Acacia, with its hairy branchlets, the dark purple racemes of Amorpha canescens, and many more. While, among the perennials, what could be more engaging than a collection of sedums and sempervivums for a ground cover for upstanding clumps of Euphorbias, and a glowing mass of the orange *Asclepias tuberosa*.

In better soil we find an old gnarled apple spreading above a rounded thicket of the gray Dogwood, *Cornus paniculata*, and in the grass near by are closed Gentians, their dull blue flowers turning red with the early frosts. Asters there are too and we might add the giant leaves of Day Lilies (Hosta Sieboldi or subcordata) or even Phlox and Yellow Lilies (*Hemerocallis*) blooming in succession, for all will put up a successful fight in the good soil.

In the open woods are flowering Dogwoods to shed their white petals among the colorful Azaleas, carpets of Violets, and Ferns, and where the sun may touch them groups of Lilies nodding gracefully. Rue (*Thalictrum*) there is also, and its foliage is as charming an accompaniment as that of a Maiden's Hair Fern for a delicate bouquet. In such a place we may choose from an infinite number of shrubs and plants but the effect is heightened by the use of few species, some in mass, some in mere touches for a bit of variety.

In the deeper shade our difficulties increase, at the foot of an old pine, there may be a straggling Hobble Bush (*Viburnum lantanoides*) and carpets of Partridge Berry, of False Solomon's Seal or Lilies of the Valley. I have found in such a site also the low bush Blueberry that is so difficult to establish and, of course, Ferns in variety. These I think we rarely use to the fullest advantage, some day I shall have a flower garden in the open, a real flower garden and yet occupied by the sun loving Ferns.

Just one more snapshot and I will leave you to make your own observations, your own adaptations of what you observe. There is a quiet pool of water in the damp gutter that reflects the swords of wild Iris and the overhanging branches of a common alder. A big tasseled sedge rises at the mossy edge, the Sundew (*Drosera*) with its hairy small leaves vies with the Blue-eyed Grass (*Sisyrinchium*) and Forget-me-nots carry down a bit of the sky above. In our gardens we would be likely to use less restraint and our small pool, perhaps a sunken half barrel, would be overgrown with bold Japanese Irises, perhaps the iniquitous Wandering Jew. I sometimes wonder if a real success in the garden line is not due more to a careful discrimination in the use of material, than it is to the knowledge of the plants and their cultural requirements.

R. S. BARRE.

The Wild Garden.

Any place which has a piece of woodland included in its area, or even a rough piece of boggy uncultivated ground, presents an opportunity for a style of gardening which many people would find very satisfying and restful. Fifty years ago Wm. Robinson, a noted English gardener and author, wrote his book "The Wild Garden," in which he earnestly set forth the possibilities and pleasures of the naturalization of both native and exotic hardy plants. Since then the wild garden has become quite a familiar feature in British gardening and seems to be fully as pleasing as the stereotyped bedding system so much in vogue when "The Wild Garden" was written. We have many estates and gardens where ideal conditions exist for this kind of work and it is always a pleasure to come across places where these conditions have been recognized and made use of to good purpose. There is a peculiar beauty and charm possessed by many of the native plants but which shows out to good advantage only when grown under conditions approximating their native haunts. Treated as ordinary garden plants most would suffer in comparison with the more showy cultivated kinds, but see them growing in masses in shady, moist, uncultivated places and there is nothing to surpass them. What is there more pleasing in the opening days of Spring than a broad drift of Bloodroot or the little Hepatica, or what more lovely than a big colony of the giant white Trillium Violets and Wood Anemones, Columbine and Virginian Blue Bells, Marsh Marigold and Forget-me-not come readily to mind as beautiful features in the Spring picture, while at the other end of the flowering season, we recall masses of Asters, Golden Rod and Joe-Pye weed just as effective and beautiful in their natural setting as the finest well tended border plants of the garden. Then there are lovely Ferns suitable for almost any situation, some for open sunny places, others for shade, some which flourish in dry ground as well as those which like much moisture. There is really a much greater variety amongst the native Ferns than might at first thought be supposed, some forty kinds being listed by one New England Nurseryman. A strong point in favor of developing this kind of flower gardening, wherever conditions will allow, is that all the subjects are quite hardy and the labor and expense involved is not great. There is every reason to suppose that we shall see increasing interest taken in this very satisfying phase of gardening.—*Gardeners' Chronicle.*

The Shower.

Pitter, patter, comes the rain
Up against my window pane ;
Song birds seek refuge now
Underneath the apple bough.

The sun returns—away the rain,
All the birds come back again,
Flowers look up to the sun
Birds chirp gayly, every one.

—Melvina Berbert-Hammond, aged 10 years.

WAYSIDE RAMBLINGS

[*Written expressly for The Flower Grower.*]

GROWING GLADIOLI AS AN AVOCATION FOR CITY PASTORS.

I have been interested in what THE FLOWER GROWER has had to say about bogies, understanding by "bogey" some fascinating reasonable hobby that captures one's attention, and later much besides, and am tempted to write why I came to make the Gladiolus mine. This was not my first bogey.

When younger I gave my spare time to drawing and painting, but my work is that of a city pastor, and with but one short month's intermission has been for twenty-five years, and that is a work that has no starting time, and no quitting time, and in which there is always more to be done than one can accomplish. It also calls for much reading, and I soon found that even in vacation time my eyes needed rest, and I should do something more active than bending over a canvas. Then I took up photography, and enjoyed that much, especially in the wilds of the Rockies where I was able to go for a number of summers. But I needed some hobby not merely for vacations but every month in the year, and needed it most when most taxed. I had no thought at first of its ever becoming a hobby, but I have always enjoyed gardening, and I was constantly needing flowers—for I know of nothing more useful in cheering the sick, or for brightening the home of one shut in, or able to give a sweeter sense of welcome to a stranger in a community—or more comforting to bereaved souls, than a few thoroughly choice flowers given in a spirit of real friendliness and well-wishing, by one who really loves them.

The city where I lived at the time, Portland, Ore., was noted for its Rose culture, but I, as a pastor, liable any year to move, and even while there living in a rented house, if I would grow such perennials, needed more room than such homes provided, and also at any move must lose all I had planted. This led me to think of bulb culture, and among other things especially the Gladiolus. At first I had but very few of some choice varieties, together with a few that had been given me, but they pleased me so well and thrived so well, and responded to care even under such adverse conditions (last year I had to transplant nearly four hundred after they were twelve to eighteen inches high, in scorching weather, and yet they nearly all bloomed) that I gave almost all my attention to the one flower, and now I have them by the thousands. Then, too, I have found among my own seedlings pets that I admire as much as any I have found on the market, and 'tis a great pleasure to be able to send a friend a beautiful specimen that he can get from no one but you.

Season after season they have enabled me to broaden my circle of acquaintance, and helped to change many of these into fast friends, and for months each year, when most needed, I have had choice flowers in abundance to share with any they may help to cheer, and through all the hot days of summer almost every evening after supper everything else is forgotten for a happy hour among my rows of pets, and in the early morning they seem to answer with their thank-you. No, I cannot be sorry that I adopted the Gladiolus "Bogey," or it adopted me. I can only commend it, specially to any who are called to minister to the sick or discouraged, or shut-ins, or among children; and who need something to rest them close at home, but that shall take them out under the open sky, commend it as offering a wonderful opportunity.

W. J. B., San Diego, Calif.

SECURING HIGH GERMINATION OF GLADIOLUS CORMELS.

In answer to "A. F. R." in the July FLOWER GROWER, I would give my experience which may be of value to him and others:

I store cormels in paper bags in an attic room just over the kitchen where the temperature is about 40° to 60° and they come through O-K in the spring.

I have planted cormels both peeled and unpeeled, half-and-half in flat trays, 3 inches deep, 20 inches long, 14 inches wide, using ¼ sand, ¼ rotted manure and ½ fine sifted top garden soil. I set the boxes in an old hot bed which had very little heat left and covered with glass so as to help hold some heat in. There is very little difference in the germination whether peeled or unpeeled, in fact about 96 out of every 100 grew. I give plenty of water while in the hot bed, and after they are well up I transplant about 4 in. apart in rows 8 in. apart; most of them will bloom the first year.

I am quite sure a slight bottom heat is very essential to success in germinating cormels. This past spring I planted two boxes in the attic room above the kitchen in flat boxes so thick as to nearly touch each other, covered them 2 inches, and in three weeks nearly all were up and growing, so I think bottom heat is helpful in starting them.

Here is a fact not generally known, but is it worth anything? If cormels are kept over one whole season, that is 1½ years, nearly every one will grow, but I do not do this any longer since I have had so much success with my method as given.

A. J. E.

HEMEROCALLIS.

There is no hardier plant than the Hemerocallis, and none that will bloom well when neglected than some varieties of it. I have grown a few varieties for a number of years, and two years ago began to get a collection of them. To begin with I ordered a number of varieties of a firm in the East one October, and received them the 20th of the following June. Every plant lived even at this late date. When they bloomed I found one variety under three names, and I had not ordered this variety either—*Gold Dust.*

Florhan and *Thunbergi* bloomed this season about the middle of July, and are both fine varieties. They are still in bloom, (Aug. 9th). *Dumortieri* is the earliest to bloom, and is more dwarf than any other variety—about one foot high. *Gold Dust* soon follows and is a good variety. *Fulva* is a robust grower, and will not do for small gardens for it will crowd out other plants near it.

Kwanso flore pleno is a double form of *Fulva.* This variety blooms late in July.

There are many new hybrids of which *Sir Michael Foster* is one of the finest yet raised.

WILLIS E. FRYER.

SAVING PEONY SEED—DISBUDDING.

Mrs. Pleas is most marvelously naive. She says, "Had I pollenized seeds, and feared their being pilfered, I should enclose them in netting and label, 'For Self.'" If she only knew it, that is just the way to make sure the precious ones will be the ones stolen, if any, and may be an incentive to stealing when otherwise it would not have been thought of.

As to disbudding Peonies, a person who grows them in quantities to ship is not going many times to neglect disbudding. Clusters have their good points, but that is no evidence that the disbudding has none. When it comes to shipping and storage, clusters are not wholly admirable.

An undisbudded stem of *Madame Crousse* is anything but graceful, so, too, I think, of *Duchesse de Nemours*, and doubtless there are others just as bad. As I grow for commercial flowers, I always disbud, and there are usually enough side-buds overlooked to put me out of humor with side-buds under all circumstances. I agree with Mrs. Pleas, however, that, when the spray is a good one, it is prettier than the center flower alone would have been. It is my impression that a really good spray is a rare article except with but very few varieties.

BENJAMIN C. AUTEN.

FRAGRANCE IN GLADIOLI.

I note in the July number of THE FLOWER GROWER an inquiry as to fragrance in Gladioli. Cornell Extension Bulletin 9 mentions several African species that are sweet scented, G. *recurvus* in particular being described as "very fragrant, with a scent . . . . similar to that of Violets or Orris root." The statement is also made that "the flowers of the hybrid, G. *Colvillei* are fragrant," as well as those of G. *fragrans*, a hybrid between G. *recurvus* and G. *tristis.*

However, the answer to the inquiry of "H. L. C." is probably correct, so far as it applies to varieties now in cultivation.

THOMAS M. PROCTOR.

POMEGRANATE.

My father, who is now 76 years old, wishes me to make an inquiry of you as to the identity of a plant that he used to see in Wisconsin when he lived there before he was 14 years old. It was called by the people there "Pomegranate," but was a vine, and related, he fancies, to the musk melon. It was planted where it would run up on hazel brush or something like that; was very fragrant—that seems to be what he best remembers of it—was somewhat striped in color, greenish and yellow. It was considered a great treasure. An old farmer living near me says that his mother, who came from Illinois, used to speak of Pomegranates as growing there, but he remembers no description. I doubt not it is the same thing that my father saw, for the name is so distinctive that it would be more than a coincidence that the report should come from both Wisconsin and Illinois. And yet, obviously, it cannot be the botanical Pomegranate. If you can throw any light on this little mystery, we should be greatly obliged to you.

ARTHUR C. NUTT.

WHITE IRIS.

Your Iris writer speaks of trying to get a white Iris of the type of *Madame Chereau.* What is the matter with *Fairy?* It is white, in no way inferior to *Madame Chereau*, is of the same type, and has exquisite and powerful fragrance. So far as I know the type, better could not be expected from it.

B. C. AUTEN.

GLADIOLUS—*BLACK HAWK.*

I notice on page 134 of the August FLOWER GROWER a list of Gladioli which the writer wishes to know the introducers' names. The variety, Black Hawk, is a Kunderd production.

A. E. KUNDERD.

Last month in the Queries and Answers Department the origin of certain varieties was asked for. Mr. Kunderd has given the information about *Black Hawk* as above. Will not some of our other readers give us information on other varieties? We believe that *Mrs. James Lancashire* was originated by E. E. Stewart.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

A Visit to the Home of Richard Diener.

SOME one said: "Well, we're off," and as we gained the deck and looking backward faced the ferry building which we had just left, I caught myself echoing, "We're off, off for Kentfield, the home of Richard Diener."

Quite suddenly we became almost the center of a flock of angry, screaming sea gulls fighting over a choice morsel thrown or dropped from our ferryboat. I whisked out my camera, but was too late, the quickest bird had seized the trophy and made off with it, the others in pursuit, but soon returning to renew their watch for waste, uttering their whining cries as they floated, almost motionless, over our boat.

The water was smooth and our boat making good time. Approaching, at our left, a great ocean steamer moved majestically toward the dock, while beyond another was plowing through the gleaming golden pathway leading from ocean to San Francisco bay. This entrance known as the Golden Gate, is hardly a mile wide at its narrowest point, while the bay itself is fifty miles long with a coast line of three hundred miles.

There were many ferry boats plying between San Francisco and the lesser cities of Oakland, Berkeley, Alameda and Sausalito. These cities are termed the bedrooms of San Francisco and well they may be for we were told that 50,000 people cross the bay in morning and again at night going to and from their work.

Upon arrival at Sausalito, we found railroad and electric trains both, in waiting and learned that they met the ferryboats hourly for passengers, but the inevitable barber shop must be visited so while Mr. Austin was undergoing tonsorial torture, I strolled about the town which lay at the foot of sheltering hills and facing the bay. A sunny place where many flowers were in bloom, but which seemed very quiet in the interval between boats. The usual idlers that frequent such places perched themselves on the sunny side of the low cement wall that enclosed the little open park, and languidly watched the changing scenes.

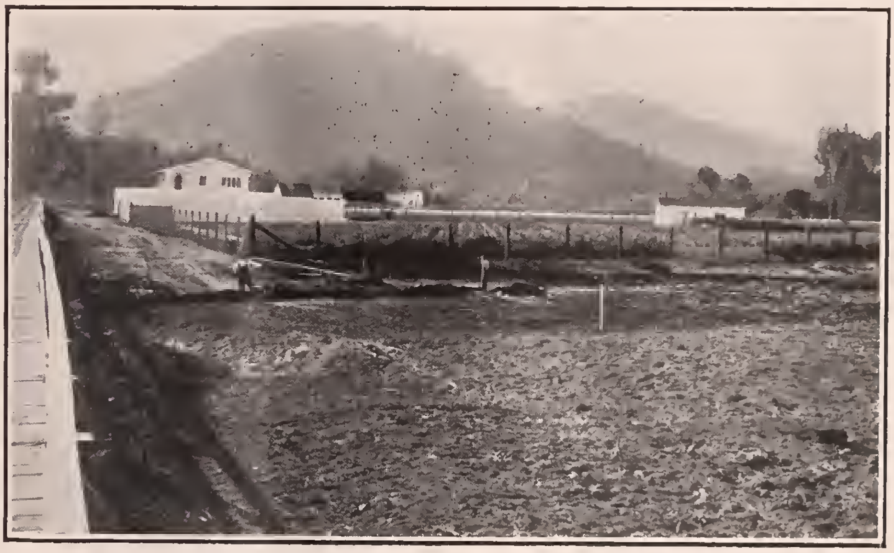
The trains came and were again awaiting the arrival of the ferryboat, and people leaving them, chatted sociably as they walked to the ferry building. Autos drove up with passengers who followed along. I realized that the hour was nearly up and Mr. Austin still in the barber shop. A long hoarse whistle warning us of the approach of the boat was soon followed by a sound of heavy doors opening, and the passengers from the boat poured out. In desperation I hurried toward the barber shop, and as the train with whistling and noisy puffing started, Mr. Austin met me at the door saying: "It's all right."

"Right! What's all right? We've missed the train!" but he had again disappeared into the maw of that barber shop.

Very soon two young strangers came out, followed by my husband, and we were courteously invited to take the rear seat in a beautiful car, and again we "were off" for Kentfield. An instance of the proverbial "glad hand" of the west.

This time our way led over and at the side of mountains amidst superb scenery. To our right, the valley, with the railroad lying like a thread in the depths below; at our left, lofty hills, amongst whose wooded sides numerous homes were nestled. The ascent to several of them seemed so steep we wondered how it was possible to reach them.

Out beyond Sausalito and far to the right, loomed San Quinton Prison, built on a lonely island, and our host of the car jokingly remarked that a couple from Ohio were wanted there, but the sight of its gloomy desolateness was enough to put one on his best behavior.



A view of Richard Diener's establishment at Kentfield, Calif. The photograph shows clearly his achievement in reclaiming a salt marsh as described. The foreground is in process of reclamation while in the background the land is already under cultivation.

Our road over the hills led again into the valley and in the shadow of Mt. Tamalpais we found Mr. Diener's home.

Entering the yard, we rapped at the door of the beautiful house we had seen pictured in his advertisements so often, but no one came in answer, so, hearing voices, we went around to another side and there we came upon Mr. Diener instructing helpers in getting some fine looking Gladiolus bulbs ready for shipment.

We introduced ourselves and were very cordially welcomed, and after a short delay, he devoted himself to our pleasure.

We first met the very pleasing and efficient young ladies of his office. Next, the girl helpers in the greenhouse, and were then conducted over his place which consists of a plot of eight acres of land edging San Francisco Bay and lower than the bay when at high tide.

Only a man with determination and will power enough to move mountains if they obstructed his way, would have undertaken the task of reclaiming this plat, which would seem to the onlooker, equally great.

His first work was the building of a wall probably six or eight feet high to dike the water back, but this was only a beginning, for it was not only inundated land, but a salt land requiring leeching. He found that rains would leech it if the salt water could be kept out and that it would drain at low tide, but being surrounded by mountains there were times when the overflow from the mountains might work disaster so he found it necessary to construct a basin in his farm and grade his land so as to drain into it. With this preparation, he is ready for any emergency and with engine power can drain his land by pumping.

With perfect control of water and drainage, he has a soil which he asserted was unequalled for quality and fertility. A soft, easily worked silt soil in which carefully grown plants may attain perfection.

It is in this kind of soil with best bulbs, seed or plants obtainable, that Mr. Diener conducts his experiments. It being the season when most plants are dormant, of course, we could not see them in bloom nor at their best.

A high wire fence along one side of his farm had large vines of seedling blackberry plants. These were varieties selected from among many, as varieties of special merit. And if growth of vine means anything, they are all they were represented to be.

There were various plantings of Gladiolus seedlings, all dormant and still in the ground. They were strong looking bulbs with green tips, ready to start into growth when their period of rest was over. Pointing to one row, he assured us that it was "the cream of the world." Another of blue seedlings, he told us, were equally superior in comparison with all blue varieties.

In the lath houses and cold frames, were many Petunia plants, probably ten thousand. They were stocky, thrifty looking, growing plants certainly promising wonderful flowers, and we regretted none were in bloom.

He had many seedling Amaryllis, several of which were in bloom and were large beautiful flowers. The sight of those alone were worth our trip there.

Diener's Giant Petunias.

After leaving the lath and greenhouses, we entered his dwelling where he showed us glass jars filled with fine looking wheat. We also saw dried stalks of tall corn with several large ears of corn on each stalk.

Mr. Diener is a cordial, genial man, brimful of enthusiasm. He is, I should say, a little under 50 years of age and began his experiments when a boy of 14 in the Hartz Mountains in Germany. In addition to Gladioli, Petunias, etc., already mentioned, his experiments with wheat and corn have produced some remarkable results.

Mrs. A. H. Austin.

The Lilacs (*Syringa*)

The Lilacs are general favorites, and there are few gardens, except those of very limited area, that do not include them amongst other shrubs. They are deservedly popular, for they do not give much trouble, grow well almost anywhere where the soil is loamy in character, and usually flower freely, the blooms being both attractive and fragrant. Moreover, they bloom at a time of year when the garden is at its best and the flowers have a beautiful setting of fresh green foliage on every hand. In addition to the common Lilac and its varieties and hybrids there are other species of Syringa that well deserve attention and are less well known, therefore in the following notes they are included as well as the better-known subjects.

In the cultivation of Lilacs there are a few points to be borne in mind. Firstly, secure plants on their own roots. Varieties and hybrids are often grafted upon stocks of the ordinary Syringa *vulgaris*, and such plants are often a source of trouble by reason of the many suckers springing from the roots. These, if not removed, seriously weaken the plant, and may even outgrow it, whereas in the case of plants on their own roots, if suckers are produced the growths are similar to those of the rest of the plant. Secondly, although Lilacs will succeed in soil of inferior quality, the best results can only be expected when the ground is good, rich loam being the most suitable. Pruning should take the form of thinning out weak wood, particularly from the inner parts of the bushes, and the removal of suckers from the base of the plants. When bushes are becoming too large for their positions they can be cut back to the old wood with confidence of new shoots appearing. Wounds must, however, be dressed over with tar to protect them from fungus spores. Another point worthy of consideration is the application of manure-water to plants during the growing season and surface-dressing the ground above the roots with well decayed manure, for they are rank-feeding shrubs. Propagation of species is usually by seeds and of varieties by layering or by cuttings.

The various species are divided into two groups. In one group the flowers resemble those of the common Lilac. In the other group the flowers more closely resemble those of the Privet, but are in larger inflorescences. The type of this group may be taken as Syringa *japonica.*

S. vulgaris is the best-known bush in the first group. It is a native of Eastern Europe and has been in cultivation since 1597. As a rule, it is represented by bushes up to 20 feet high, although it may exceed that height, whilst it sometimes develops with a short, stout trunk and a large head. Even with type plants there is some considerable variation in the size and shape of the inflorescences, and also in the color of the flowers, whilst in the varieties and hybrids the difference is more marked. Of a very large number of garden Lilacs the following are worthy examples: *Single-flowered.—Alba* grandiflora; *Marie Legraye*, and *Noisettiana*, white; *Aline Marqueris*, reddish-purple; *Charles X*, rosy-purple; *Mme. Kreuter*, bright rose; *Pasteur*, claret-colored; *Philemon*, dark red; *Princess Marie*, pale lilac; *Souvenir de L. Spath*, dark crimson. *Double-flowered.—Alphonse Lavallée*, bright rose; *Charles Joly*, dark red; *Dr. Masters*, lilac; *Mme. Abel Chatenay* and *Mme. Lemoine*, white; *Michael Buchner* and *President Carnot*, lilac.

S. Persica, the well-known Persian Lilac, is a dwarfer bush than *S. vulgaris*, and well fitted either for large or small gardens. Growing from three feet to five feet high, it forms a dense bush furnished with long, slender branches which bear elegant panicles of very fragrant lilac flowers freely in May. There is a variety, *alba*, with white flowers, and another, *laciniata*, with cut leaves. All blossom freely from the time they are a few inches high.

S. chinensis, the Rouen Lilac, is a hybrid between *S. persica* and *S. vulgaris*, and is intermediate between the two, its height being 12 feet to 15 feet with the more slender branches of the Persian Lilac. It is very free-flowering and the blooms are deliciously fragrant. When well-established it is one of the most beautiful of all Lilacs and rarely fails to blossom well.

S. Emodi, from the Himalaya, is sometimes called the Himalayan Lilac. It is a very vigorous bush, often 18 feet high. The leaves are dark green above and silvery beneath. The flowers, in good-sized, erect panicles, are borne in June, and are creamy-white with a purplish tinge. They are not, however, fragrant.

S. villosa is closely allied to *S. Emodi*, and was at one time called *S. Emodi var. rosea.* It is, however, distinct in its longer and larger inflorescences of rosy-lilac flowers. The panicles average about nine inches in length, the finest being fully 18 inches long. It is a native of Northern China and is not very common in this country, although introduced about 1885. It grows at least 10 feet or 12 feet high, and will probably attain a greater height. The flowers are not fragrant.

S. pubescens, also a native of N. China, is a bush 15 feet high in its native country, but is not a satisfactory subject here, for although hardy so far as winter frost is concerned, it suffers a good deal from cold winds and frost in spring, and its young shoots and flower-buds are almost always crippled. The flowers are fragrant and white or lilac in color.

S. Julianæ was introduced from China in 1900. It is a slender-branched bush four feet or five feet high, with downy young bark, and bears small panicles of fragrant lilac flowers during late May and June.

S. oblata, also from China, grows at least 10 feet high, and produces lilac flowers in moderate-sized panicles in May. It, however, begins to grow very early in the year, and more often than not both young shoots and flowers are seriously injured by late frosts. A closely allied but really more satisfactory shrub is *S. affinis*, which blossoms with greater regularity during late April or early May. It bears fair-sized panicles of white or lilac fragrant flowers.

S. Pinnatifolia is more interesting than beautiful on account of its pinnate leaves. The white, lilac-tinted flowers are borne in small panicles in May.

S. Japonica is a representative of the group bearing Privet-like flowers. In Japan it forms a small tree 30 feet high; here it is usually a bush. The creamy-white flowers are borne in large, graceful panicles in June, and are not fragrant. Unfortunately, it is sometimes injured by late frosts. An allied plant is found in S. amurensis, which is decidedly inferior in every way.

S. Pekinensis also belongs to the Privet-like or ligustrina group. It is a small tree 20 feet high, with good sized panicles of creamy-white flowers. Like the others, young shoots and flowers are sometimes injured by late frosts. The variety *pendula* is a graceful tree with weeping branches.—*Gardening Illustrated.* (English.)

Narcissi Naturalized.

Few flowers show to better advantage when naturalized than do the various forms of *Narcissus.* Along woodland walks, on banks, and in rough grassland the charms of these delightful Spring flowers are displayed to perfection; and we can think of nothing else that will give greater pleasure for so little expense and labor. Once established they will take care of themselves and make a fine showing for several years if the foliage is allowed to mature before any tidying up takes place. Of course all formality in planting must be strictly avoided, such as straight lines and even spacing, else the pleasing natural effect sought for will be entirely spoiled. Some gardeners make it a practice to plant out *Narcissus* after they have been forced in the greenhouse and such clumps will flower splendidly the following year. It is really a pity that any should be thrown away as long as there are any empty spaces where they could be planted, such as in the shrub borders for instance, where they would not be in the way of anything else, but would bring added life and beauty before the regular occupants got under way. So far as varieties are concerned, any of the strong growing kinds seem to do equally well.—*Gardener's Chronicle.*

The multiplication of varieties in flowers proceeds apace. There seems to be no end to it, and many of the varieties are not only no improvement on the older ones, but some of them not as good. We might write a lecture on this subject and we may do so at some future time.

The American Iris Society.

WHAT A CONTRADICTORY thing a catalogue may be, deceitful or delightful, it may lure us to dreams or —to disappointments. I am a collector of catalogues, I like to compare one with another (particularly the prices therein) and some are stodgy lines of print while others have a personal touch that makes one want to meet the man behind. I am not to mention all the catalogues of our commercial members for that would be as difficult as describing two similar Irises so truthfully and yet so delicately that you would buy them both. Few catalogues, at least in the Iris line, are without some merit, what I dislike you might appreciate, but whether we agree or disagree do not think that I know what sort of stock may be supplied you.

Our present day catalogue of the finest type is a development from the mere price list such as William Prince issued in the early nineteenth century, a list of botanical names with no descriptions. This we still find in bargain ads or wholesale lists, but more often it is an attractive little booklet with brief descriptions, a prologue and perhaps some special notes. This type leaves much to the imagination, superlatives are few and for anyone with information from current garden literature it is most satisfying. If well done these modern price lists have an individual flavor that I like far better than the tepid commonplaceness of a much more ambitious pamphlet. In some cases the varieties are listed alphabetically for easy reference, but hunting for a certain coloring then becomes rather arduous; again they may be variously grouped, sometimes according to rarity, or origin, sometimes according to price as in T. C. Thurlow's Sons, Inc., catalogue, but usually according to the presumable botanical relation. These groups were first put forth in 1892 by Krelage for the convenience of gardeners and for many years they have proved their worth. Now, however, though the *germanica* group still has a value, the *pallidas* which comprise varieties as widely differing as *Juniata, Dalmarius* or *Plumeri* prove of but little assistance. I wonder do you prefer to hunt through a list for the novelties, or to have them blazoned on the first page? And, do you really enjoy having the same novelties labeled "new" for ten years as has been the case with *Rhein Nixe, Iris King,* and others. That is hardly a sign of progress. A variation on these price lists is the folder; probably Wm. Peterson's is familiar to you all. The paper is stiff enough so that it is not easily mislaid and though the list of varieties is not long they have been well tested. You are offered both price and color collections, and even different sized roots. That, by the way, is something worth noting, just what sort of a root actually grows best, is it a good-sized "finger," a two-pronged rhizome that has had a stalk of bloom this year in the crotch, or what best satisfies the buyer? To one who wishes to increase his stock it is naturally a well budded rhizome, but for bloom what is the verdict?

The next step in catalogue development is an increase in the text, sometimes due to more detailed descriptions as is the case with Miss Sturtevant's or Mrs. Cleveland's, sometimes to a literary effort that is extremely interesting. We may read a batch of letters from customers, enjoy a pleasant chat with Mr. Geo. N. Smith, get some solid advice from Mrs. Dean, or even be stirred by Mr. Groschner's remarks upon one of our favorite varieties. It seems as if it were in this sort of a catalogue that the customer comes in closest touch with the grower. I happen to know Mr. Smith, but I feel as if I knew Mr. Weed almost as well and he lives in Oregon. Sometimes these lists have a picture or two that adds much to their attractiveness, though as yet we do not find in the small Iris catalogues the lovely coloring of the Gladiolus list such as Cedar Acres sends out.

And that brings me to pictures, I *do* wish that they would be correctly named! One wonders whether it is from accident, or design, or lack of knowledge. You will find flowers pictured full size (often strange affairs) fascinating clumps, masses in gardens or nurseries, but best of all characteristic stalks such as we find in R. W. Wallace's catalogue or the English garden magazines. I have counted the flowers in bloom on many a stalk, but never do I find such a number as there pictured. How many flowers out at once on a single stalk have any of you counted, I wonder.

I know of only three big catalogues wherein Irises are one of the main specialties, the Rainbow Gardens, B. H. Farr, and John Scheepers, Inc., no two of them alike, the first is a good clean-cut presentation and offers some English varieties not listed elsewhere in the United States, the second all Iris growers of recent years know from cover to cover, the third is just out and is "A Book of Gardens," the catalogue has become a sumptuous volume with articles by the Rev. Joseph Jacob, Mrs. Wilder, Mrs. Edward Harding, and an appreciation by Mrs. Francis King, all charmingly and fancifully illustrated. I have enjoyed the book thoroughly and have a feeling that Mrs. Wilder is responsible for much more than the signed articles; the descriptions are delightful and often include helpful hints as to combinations with other flowers. Though it is primarily a bulb catalogue, Irises receive their just due, but I had better warn you that a $5.00 deposit is necessary until an order for $25.00 worth of bulbs is received, if you wish it sent you.

When you come down to it, is it not the description of a variety that lures you? Unfortunately as yet few varieties are adequately pictured. Let me quote two descriptions, one from Barr & Sons' catalogue of 1913, the other from Mrs. Cleveland's of 1920, in both cases the varieties are new introductions: "*Florence Wells*, S., soft mauve, F. deeper mauve, large flowers, very free bloomer." "*Opal*, S., very large, wavy and overlapping, lavender softly shaded mauve, F. lavender overlaid with rose. The whole flower is enormous in size, beautifully wavy in effect, gracefully branched and with an indescribably opalescent appearance." The first was listed at 35c., the last at $15.00.

Five years ago, I think it was, that *Crusader*, listed at $5.00, was the highest priced variety of Iris offered, then in the same year *Avalon* was listed at $25.00 and *Dominion* (by the agent at least,) at $39.00, now the latter is $49.00 in this country and the prices of many other varieties range from $3.00 to $10.00 or more. Such prices are distinctly unreasonable and yet apparently people want them enough to pay them, though I must acknowledge that when a price stays up for too many years it is not due to the overwhelming demand, but to poor growth, or vicissitude, with many growers. *Caterina* is a case in point, some firms have frankly discarded it, lovely as it is, with others it is listed at from 50c. to $5.00 a root, it is a fine grower, though perhaps slow, but very susceptible to cold and wet. *Rhein Nixe* and *Iris King* are almost equally fine in their respective classes, the first I have seen listed at $7.00 per hundred, the latter rarely below $2.50 a dozen, and yet for the garden it is a satisfactory grower in every way. Novelties are high priced because they have been introduced to the public, very likely, before a large stock has been accumulated, but if the price remains high plan to give the plant a little coddling if varieties such as *Crusader, Oriflamme* or *Caterina* do not grow well for you.

And now for what is new in the catalogues, or rather what is new in the comparatively few new catalogues that I have at hand. In general we find at least some of Farr's seedlings in every list and also Goos & Koeneman's introductions of 1910, but these are now among the old stagers and varieties from R. Wallace & Co., such as *Ringdove, Dawn, Shelford Chieftain,* and more rarely *Crusader, Lady Foster,* and *Lord of June.* One catalogue offers *Gules*, and a few others of the Bliss seedlings, more of which I expect to find in next year's catalogues. Seedlings from Miss Sturtevant and Mr. Fryer are listed by at least three firms. *White Knight, Lent A. Williamson, Zua* and *Mrs. Sherwin Wright,* all American and fairly new are quite commonly listed. Of the French introductions the older *Edouard Michel, Oriflamme, Monsignor* and *Archeveque* are not at all unreasonable in price, but thanks to Quarantine No. 37 *Opera, Ambigue, Dajazet, Pancroft* and others, you may find high. *Mme Durand, Aixo, Delicatissima* and a few others that I mentioned in the January FLOWER GROWER have just appeared for the first time and at very fair prices indeed. Miss Sturtevant has added but three low priced seedlings to her list this year. Mr. Fryer a large number at varying prices, and Mrs. Cleveland who has joined the list of introducers offers fifteen seedlings and her list is entrancing reading, and I want to try some of her new things though yet unseen. To my, perhaps, overcultivated taste this list and "The Book of Gardens" are the two outstanding points of interest among the Iris catalogues of 1920.

Just for an amusement I want to give a short list of the highest priced varieties of Irises that I can and ask if you from your experience will not tell your fellow members whether they are as fine as the prices should indicate, I think it would be appreciated: *Ambigue, Avalon, Dominion, E. C. Shaw, Grenadier, Marsh Marigold, Madison Cooper, Opal, Opera, Roseway, Red Glory, Shekinah, Peter Barr* and *Thelma Perry.* Some day I expect that we will have a real symposium of all our fine varieties of Irises.

A number of correspondents are wanting recommended lists of varieties. Why don't each of you send in a list of say ten of your favorities? It will prove but an informal symposium but the results might prove of real value. Do it promptly though so that there will be some continuity in our published notes.

I imagine we all found much of interest in Mr. Zeestraten's recommendations of Bulbous Irises last month and I think that you will also find something of interest in the following notes from Mr. William S. Johnson, another of our members who has, what I should call, a pretty fine collection. I think that you will find it a pleasant change from the continual terminology of your secretary and he would appreciate more of the same.

NOTES FROM ILLINOIS.

In this section of the Mississippi valley the weather is very variable, ranging from the extreme heat of 110 degrees in summer to 20 degrees below zero in winter. The springs are often cool and wet, consequently in a wet season Irises are apt to suffer from rot. This year the season was rather rainy followed by extremely hot weather and Iris rot was quite prevalent in many gardens. In my own garden it seemed to make little difference whether the Irises were planted in very porous soil or in clay where the drainage is not so sharp. Some of the older varieties, such as *Darius, Sambucina, May Queen, Thorbeck, Mme. Chereau,* do not seem to be troubled with the rot at all, while my clumps of *Caterina, Albicans, Edouard Michel* and *Alcazar* were completely destroyed. I have tried washing the roots in a weak solution of permanganate of potash and afterward using the same solution on the ground, but this seems to have little effect in checking the trouble. Now that we know where superphosphate of lime is to be obtained, we may be able, in a way, to prevent and check the rot, but the cutting away of the affected parts seems to be the first necessity. Irises grow so readily, even under conditions where other plants would not live, that they are often denied ordinary cultivation which other plants would get as a matter of course. I believe that improperly ærated soil is the beginning of all trouble.

The various bulbous Irises (*reticulata, Juno, Xiphium,* etc.) which we used to be able to get from Holland, seemed to do well here the first year or two and I presume it was due to ignorance of their needs that they did not live longer. A few warm days in the middle of March were sufficient to bring *Danfordiae* and *histrioides* into bloom, the former a sweet-scented species, the latter a beautiful light blue of fine form. These were followed a few weeks later by the *Junos, sindjarensis* and *bucharica,* both profuse bloomers and the latter particularly fine with its bright yellow and white flowers. Of the *Oncocyclus* and *Regelia* Irises, I have tried *Bismarckiana, iberica, Korolkowi, Mariæ* and *Susiana.* Out of some fifteen plants of I. *susiana* I have been able to coax only one huge blossom a year, yet they have all lived and looked strong for five years until last winter, when they nearly all died. The *Regelio-cyclus* Irises, however, bloom exceedingly well here, even when left in the ground the entire year, though I always lift my plants a few weeks after blooming and store them in dry sand until late in the fall. Even with late planting they make 2 or 3 inches growth which is usually killed during the cold weather but in no way seems to affect the vigor of the plants. *Artemis, Calypso* and *Isis* are particularly beautiful and very free blooming. The *Oncocyclus x Pogoniris* hybrids of Sir Michael Foster bloom somewhat later than these, are equally beautiful and much stronger growing. In fact, they multiply quite rapidly, though not quite as rapidly as the average bearded Iris, and do not need to be lifted during the summer.

In the meantime the dwarf bearded Irises have nearly finished blooming and the intermediates are in full bloom by the third week in May together with the Germanica group. In a hot season the mass of hybrids comes too soon and lasts only a short time, but in a normal season we usually have plenty of bloom up to the middle of June, when the taller growing apogons commence to bloom. *Siberica, orientalis, aurea, Monspur,* etc., bloom profusely in the border and with practically no attention from year to year. I. *fulva* bloomed well for two seasons in a very hot and dry location and then suddenly died. The Japanese Irises are hard to manage in this locality, at least in gardens and under ordinary cultivation. Even plants raised from seed seem to be no better.

Raising Irises from seed is easy and interesting and the results often surprising. My first seedling to bloom, from a chance cross, was practically a duplicate of *Parisiana* but with the added beauty of a strong divided line of lavender pink down the center of the falls. Others were as good as, though no better than many of the older named varieties. There are too many poor named varieties as it is and it is to be hoped that the American Iris Society will soon be able to prepare a check list of the many varieties and take votes on their respective merits.

WILLIAM SPENCER JOHNSON.

REGISTRATION.

Couleur de Rose. Japanese. Mrs. Francis Cleveland.

Dusk. A blend of size and height. B. Y. Morrison,
Fenella. A floriferous white. B. Y. Morrison.
Peachblow. Mrs. Francis Cleveland.
Soubrette. Mrs. Francis Cleveland.

Names changed at request of Committee on Nomenclature:

Mandarin, (formerly *Grandee.*) Mrs. Francis Cleveland.
Aristocrat (formerly *Grenadier.*) Mrs. Francis Cleveland.
Autocrat (formerly *Isolda.*) Mrs. Francis Cleveland.

At the Exhibition of the National Society of Horticulture in Paris on May 27, 1920, Certificates of Merit were awarded to the following Irises: *Allies, Chassuer, Dalila, Hussard, Marsouin, Spahi,* and *Trianon* as shown by Vilmorin, Andrieux et Cie.

I trust that none of our members have been troubled by an apparent similarity between the Iris borer and the corn borer, they are absolutely distinct, the first might, of course, be found in an Iris flowerstalk though it is customary to break this off at the base before shipping, the latter is first found in the leaf sheaf then in the rhizome. Whereas the Iris borer is known to attack only a few perennials with tap-like roots such as Columbine or Lupin, the corn borer may be found in even the stalks of the common pigweed. There should be no mistake among Iris growers concerning the difference between these two borers.

R. S. STURTEVANT, *Secretary.*

THE IRIS.

Iris Families.

There is something about this big family of plants which has a special charm for many garden lovers. Apart from the beauty of coloring and elegant shape of the flowers of the majority of species the foliage is often strikingly beautiful, setting off the graceful blossoms to perfection and making the plants handsome objects in the border even when the blooms are over. Many of them, particularly those of the Germanica and allied classes, are so easy to grow that for that very reason they often do not get the cultivation they deserve and are relegated to some out-of-the-way spot where nothing much else will grow, but where, though they may grow, they can never flower as they should. Even where they are appreciated and treated properly, however, it is quite a common thing to find nothing but a few forms of the Germanica class grown, and beautiful as these are, they cannot take the place of many of the other numerous species some of which are quite as easy to manage as the Germanica forms and quite as beautiful. One does sometimes see a clump or two of the Siberian Iris (I am speaking of ordinary gardens), and occasionally I. ochroleuca, and, of course, such bulbous species as I. hispanica, and I. anglica, but when one has mentioned these it comprises practically all the species known to the average gardener, except perhaps, I. Kaempferi, which is supposed by many to be impossible except in a bog or shallow water. There is a great wealth of Irises which are little known to the average man, but which can be quite easily grown even in an ordinary little London suburban garden, and which, increasing in beauty as they do year by year, would be far more interesting than many of the annuals or more ordinary perennials with which such gardens are usually filled. How many people, for instance, grow the lovely winter-flowering Algerian Iris which gives its delicate sky-blue flowers with their sweet scent just when blooms are most precious, from November to March. And yet it is perfectly easy to manage in a raised bed of light or leafy soil at the foot of a south wall, growing and flowering luxuriantly even in a smoky London garden. Iris reticulata is quite as easy, given similar treatment, and its deep violet-colored and Violet-scented blossoms are most welcome in February. The sweet-scented Iris graminea, too, is perfectly easy in an ordinary border, and will give plenty of its rather curious blue and purple flowers, nestling among the Grassy foliage and smelling strongly of Apricot jam. Iris missouriensis is another lovely Iris, free-flowering and most easily grown in an ordinary border, but rarely seen. Its flowers are of a peculiarly beautiful and delicate shade of lavender-blue, difficult to describe, but very charming. The Siberian Iris, though growing best in moist conditions, does very well in an ordinary border if deeply dug and well hoed, and is, in my opinion, one of the most beautiful of the whole of the Iris family, with its long, narrow arching foliage and sheaves of graceful flowers on long stems in white or various shades of blues and purples, which are most decorative in the garden as well as in the house. There are many named forms. Snow Queen being, perhaps, the finest white, and this is, indeed, a lovely thing. The flowers of this species seed profusely, and it is interesting and easy to raise seedlings. So it is from the Japanese Iris Kæmpferi, which also, though naturally a marsh-loving species, is quite easy to grow in a well cultivated border. It is, of course, a noble species with enormous flowers, but, personally, I much prefer the smaller but more graceful Siberian Iris. The Japanese Iris naturally grows more vigorously in a boggy situation, and if a tub or a tank be sunk in the ground a miniature bog can easily be made which will answer quite well for the marsh-loving species. Iris Wilsoni, a Chinese species somewhat like a yellow I. sibirica, will grow well under such conditions—so will Monnieri and its hybrid Monspur and others.

The Mourning Iris (I. Susiana), which, though subdued in coloring, is a singularly beautiful one, belongs to a group which does present some difficulties of cultivation, but the hybrids which the late Sir Michael Foster raised between this group and the Germanica group combine much of the interest and beauty of the former with the accommodating nature of the latter, and in well-drained, sunny positions, are little, if any, more difficult than the Germanica forms.

One of the few Irises which will flourish in shade is our native Gladwin Iris (I. fœtidissima). Although the flowers of this are inconspicuous it is a species well worth growing for the sake of the seed-pods, which are well-known objects for winter decoration when they have half opened, displaying the bright coral-red seeds inside. There is a rare form of this with yellow flowers, and another with variegated foliage. Another native, I. pseudacorus, the well-known Marsh Iris with deep yellow flowers, is handsome and easily grown in the border, but the flowers do not last very long. This also has a form with variegated leaves.

Then, in addition to the tall June-flowering Irises of the Germanica group, there is the dwarf I. pumila, flowering quite early and not more than a few inches high, though with much larger blooms than one would expect from the size of the plants. These are suitable for the front of the border or for the rock garden.

The above mentioned are all easily grown species, but by no means exhaust the list of Irises which can be grown in any garden. It is such a fascinating family that the more anyone gets to know of the various kinds the more anxious will he be to try some of those more difficult ones which are not everybody's plants, but will readily respond if their needs are studied.—*Gardening Illustrated.* (English.)

Someone has said that the Iris should not be planted in rich soil and that no manure should be used. The Iris in common with other plants needs liberal treatment. Although it probably will not stand fresh manure, well rotted manure applied in not too liberal quantities and not too close to the plants will be as beneficial to the Iris as to other flowers. However, the Iris will do pretty well in a lean soil, but this does not mean that it will not do better where the soil is moderately rich.

Northwestern Peony and Iris Society.

W. F. CHRISTMAN, *Secretary.*

September, the month that is generally conceded as one of the best for planting Peonies, is at hand, and planting activities should be well under way. Iris and many other perennials can also be planted in September with the best results. September planting gives an opportunity for the small rootlets to form and get well established before the winter months put a stop to further development, thus enabling the plant to give a good account of itself the following spring. Nearly every catalogue received will give cultural directions for the various varieties of flowers so there is little excuse for any one not having flowers in plentiful quantities.

I want to urge each reader that has not already experienced the pleasure of raising Peonies and Iris, to plant at least a few this fall. If orders for stock have not already been placed, do not hesitate longer, as most growers will greatly appreciate early orders to enable them to plan accordingly for the best interest of their customers.

Each active member of our Society will receive a splendid little booklet on the Reading Peony Show, prepared and distributed by Mr. Lee R. Bonnewitz, the President of the American Peony Society and one of the most ardent Peony enthusiasts I know of. I have read this booklet with a great deal of interest and profit and I feel sure our membership will do likewise. I wish to express to Mr. Bonnewitz through this column my appreciation of his kindness in sending out this booklet to our members. He is also distributing a booklet illustrating the Reading Peony Show that can be secured by all interested who make a request for the same. We note that Mr. Bonnewitz has graduated from the amateur class and is now a full fledged professional. He has one of the largest collections of different varieties of Peonies in the United States.

A splendid picture of the Iris *Zua* was shown on the front cover of the August number of THE FLOWER GROWER. Those that have been permitted the pleasure of seeing this flower are very much impressed with its beauty. It is so distinct from other varieties and has such a charming, delicate combination of color, that it at once appeals as an unusual flower. It is a dwarf growing variety but produces very large bloom. Stock is very limited. The texture of the bloom resembles crepe paper, but lasts extremely well as a cut flower.

The writer had the pleasure early in July of visiting the garden of our Vice President, Mr. H. J. Bartholmey, and I had often wondered how he grew such a variety of flowers on a city lot. I should say two lots, as he has purchased an adjoining lot to plant his surplus. He has some beautiful flowers but space prevents my going into detail here. He surely utilizes every inch of space to the very best possible advantage and I would like to have him tell the readers of this article some time how he does it. I do not wonder now why he has so many converts to our Society, for after seeing his garden and learning the possibilities of a city lot for the planting of beautiful flowers, it is hard for anyone to resist making a similar attempt. In company with Mr. Bartholmey I had the delightful pleasure of meeting Congressman James R. Mann and the added opportunity of being personally conducted through his garden. In this garden can be found every good Peony that is procurable and many that are not to be had at the present time as there are new varieties growing in this garden of which only a very limited few have been spared by the originator and it will be some years before a sufficient supply will be propagated for general distribution. Congressman Mann has a very complete record of his plantings that I was very much impressed with. He has a double check on all operations of planting that will prevent errors that are quite likely to be encountered in large plantings. Both a book record and a card index are employed. My only regret was the limited time at my disposal that prevented a longer stay. I wanted to visit the gardens of many of our Chicago members but found it impossible to do so.

Would greatly appreciate a letter from any of our members giving their experiences in the raising of Peonies and Iris. Whether successful or not, let them come and we may be able to help you. That's our desire and one of the aims of the Society.

Crinums.

[*Written expressly for The Flower Grower.*]

Crinums belong to the Amaryllis family. The bulbs have long necks and grow to be very large. The leaves are very wide and long, growing out something like the leaves on a stalk of corn.

They are summer blooming bulbs and are easily carried through the winter, needing very little moisture, but as much warmth and light as possible. During their growing period they require a sunny position, plenty of water and an occasional application of some kind of fertilizer. They bloom sometimes two or three times during the summer, throwing up bud stalks similar to an Amaryllis, crowned with large clusters of buds.

Three hybrid Crinums obtained in California, have given me great pleasure. Two were a delicate blush pink with a deeper pink stripe through the center of the flower. The last and most beautiful produced eight blooms of the purest waxy white. They were as large as an Amaryllis and had a fragrance similar to that of a Lily of the Valley.

MRS. F. A. LORENZ.

The Glad Philosopher's Musings.

I was once present at a private gathering when a celebrated phrenologist gave a demonstration of his ability to read character through the science of phrenology, and in order to prove conclusively his claims for the unerring accuracy of the craniognomic system, he allowed himself to be blindfolded, depending entirely on the sense of touch for his conclusions. A strange boy, a street gamin, was then brought in, when the professor was asked to state what he found. After feeling his bumps for a while and announcing promptly and with correctness the various characteristics they revealed, he came across a depression where the lad's bump of bravery should have been located, and said, "I find this boy bright and fairly intelligent, but an awful coward, yes, an awful coward. Am I not right, young man?" The boy took exception and immediately replied, "Naw, I can lick any-t'ing of my size." "That's it—that confirms it," retorted the professor, "A coward is invariably a braggart."

It takes more courage than some folks have, to say, "I was mistaken." Some there are who were never heard to say it, and never will be, owing to their having either a stubborn will or an enlarged ego. Ignorance and conceit are as inseparable as cowardice and braggadocio, and it evidences a lack of wisdom when a mind is not open to conviction. There is an old saying of doubtful origin, "A wise man changes his mind,—a fool never."

A few years ago I allowed myself to be persuaded, influenced by the opinions of certain nature lovers, that the garter snake was a beneficial neighbor, and I welcomed him to my garden. I once even made a plea for his friendship and protection in this column.

Well, I have changed my mind. Henceforth the garter snake and I are again at enmity. One day this past summer I came across one with a toad, half-swallowed, in its mouth. Now, anyone who will swallow a toad in my presence cannot expect to longer remain my friend. I promptly released the toad, gave the snake a good scolding, and as it was the first offence I had observed, let him off with no further punishment than throwing him out of the garden, down over the river bank. A week or so later, while at work in my garden, I came across another garter snake with a small toad in its mouth, partially swallowed. As I rescued this toad a righteous wrath rose within me, and if you would know what happened to that snake, consult the casualty list.

So the garter snake now goes on my black-list, along with the rat, the house-fly, the English sparrow and the tom-cat. THE GLAD PHILOSOPHER.

We are at variance with the Glad Philosopher on snakes. We don't like them, but we tolerate them. The snake has his place in nature.

THE DAHLIA

Exhibition Dahlias for Amateurs—A Few Simple Rules Whereby the Beginner May Grow the Finest Blooms.

MRS. CHARLES H. STOUT,

(in *Bulletin of the American Dahlia Society.*)

TO THE UNINITIATED, the average Dahlia Show spells untold labor and expense by those who send the great perfect blossoms for competition. Could they but realize how little the Dahlia requires, and how appreciative it is of a little attention, and how much it will give in return, the "back yard amateur" would be heard from far more often in our shows.

The following simple rules fit our hot New Jersey climate, where during the cloudless days of July and August the plants fairly gasp for moisture, and frosts often catch our finest blooms in mid-September. They may be modified to suit local conditions, but it is safe to say that they may be followed throughout the Eastern States as far South as the Mason and Dixon Line, and as far North as Boston.

In matters of soil and location the Dahlia is most accommodating, and splendid blooms will grow upon plants which have not had the treatment here described; but the suggestions given, if followed, will help to produce perfect form and substance, large size and strong stem, the goal of the prize-winner.

LOCATION.

Dahlias like fresh air—do not place them in a walled garden. They want the morning sun, and like a little shade during the hot afternoon, the shade of distant tall trees or buildings. The ground should be fairly level, and if it can be so arranged, where it gets a wash from a gentle slope. The roots need plenty of water, so much drainage is unnecessary, and is sometimes harmful.

SOIL.

The soil should be sandy loam, not too light and not too heavy. If the location chosen has clay soil, dig plenty of sand into it, and add any amount of rotted leaves. This is the most valuable fertilizer we have, being just what Nature provides in her own garden, and through ignorance is destroyed to the value of hundreds of thousands of dollars each year.

Dig the beds 18 inches deep at least, mix in the leaf mold and add bone meal at the rate of about 100 pounds to 300 square feet. It is better to do this in the Autumn, but even if done in the Spring the plants can use the food to good advantage.

Bone meal gives the plants a sturdy constitution, good roots and strong stems. Never use coal ashes for Dahlias. It is too strong in alkali and impoverishes the soil.

PLANTING.

Do not make the mistake of planting too early. Some of the slow growing varieties should go in about May 15th, as a light frost does not hurt them when so young. Tubers can be planted as late as July 1st, and potted plants a month later.

Dahlias should grow three to four feet apart, and if possible, in a garden by themselves. Peonies, Iris and all strong feeding plants should never be placed near them. Indeed no plant should be nearer than three feet from a Dahlia.

Stakes should go in first. Forcing them in after the plants are in the ground will disturb the roots and often kill the whole. For the taller varieties, 2x2 rough lumber six feet long and pointed at one end is best. These should be washed over or painted with a dark creosote stain, and the pointed end tarred to protect from rot in the ground. Force the point down eighteen inches or more, at the exact spot where the plant is to grow. Then dig a hole next to it six to eight inches deep, and wide enough to lay the tuber on its side, with eye up, next the stake. Cover lightly with soil to about two inches. Do not press the soil down, but if it is very dry, pour a little water into the hole to tuck the soil around the tuber just enough. As the sprout grows, the hole may gradually be filled up.

Green plants may be set next the stake with a depression of about two inches, to be filled up as it grows.

This is to ensure deep root growth, and deep root growth ensures moisture, just where the plant needs it.

If there is any risk of cut worms being in the soil, each plant may wear a collar made of building paper, about two inches above and below ground. In early June this danger is over.

TYING.

As the plant reaches a height of about 18 inches, it should be loosely tied to the stake. Allow for the swelling of the now slender stem, for it will sometimes grow to be more than six inches in circumference. Tie it again as it shows need of support, but never choke the leaves up with the string.

MAKING PLANTS.

A clump left from the plant of last year must be separated so that each tuber has an "eye" or sprout attached to it. Never plant the whole clump. This eye is always located on the neck of the old stock, and sometimes it is no easy matter to cut the tubers apart without breaking them. The sinews of the neck which holds the tuber to the eye must not be strained or broken, for then the plant can never develop. Use a very sharp pointed knife.

To make green plants, put the whole clump into a box of soil in the hotbed or greenhouse, or even in a sunny window at home. When the sprouts have three sets of leaves, cut them off half way between the first and second set, trimming off the two lower leaves of this cutting. Plunge them into damp, warm sand, deep enough to cover the joints. Keep watered and shaded from direct sun in bottom heat of about 70°F. for three weeks. On removing from the sand little hair-like roots will be seen coming from the end of the stems. Plant carefully in a three-inch pot, and allow to grow until the pot is well filled with roots.

Meanwhile the shoots from which these cuttings have been taken will each have made two side shoots. These may be removed in turn when three sets of leaves have appeared. Each time this is done, twice, the number of shoots appear, but after many cuttings are made, the last ones are liable to be weak. Fifty plants should be the maximum.

DISBRANCHING.

Never more than one main trunk should be allowed to grow in each stand. If the roots throw up more than that, they may be carefully detached when small, and may be potted and grown like any green plant made from a cutting.

Six to ten main branches from the trunk is plenty. If there are more than that, cut out or break off one branch from each pair, and when the main branches re-branch, remove every other one, leaving, preferably the branches which would grow outward. This allows the air to circulate among the leaves, and puts twice the vigor into the branches left.

The secondary branches are destined to be the flower stems, and if they in turn throw out side shoots, rub them off as they appear. Do not allow too much leaf growth, as that takes the strength from the bloom.

Often a flower bud will appear in June or early July. Cut it off half way down the branch. Immediately two new shoots will start out from the last joint left, and these will make good flowers in September. Plants which bloom during the growing season, do so at the expense of the roots, and do not give fine flowers when they are really wanted.

PESTS.

White fly is the most serious pest for Dahlias in this part of the country. It stings the tender buds and the young shoots, thereby stunting growth, and injuring the blooms as they open. The most effective treatment known so far is to make a solution of nicotine sulphate, about half the strength of solution used on Roses for thrip or green fly, and spray under the leaves late in the afternoon in dry weather. Two applications about three weeks apart should be all that is necessary.

CULTIVATION.

Cultivate Dahlias constantly. At first the cultivator may go in deeply, but as the tubers become larger this is both dangerous and unnecessary. The tubers may become injured and the plant blighted; and to loosen the soil which is touching the tubers will dry them out. The top soil, however, should be kept constantly stirred, both to keep down the weeds, and to keep in the moisture.

In dry weather the roots should be thoroughly soaked once a week. The best way is to turn on the fountain spray for three hours in one spot. It is the nearest to Nature's way, and thus the water will soak down to where the roots may have it for many days after. A daily sprinkling is harmful.

FOOD.

About the last week in August the plants should have their first treatment of fertilizer. Sheep manure is best for this, or if available, fresh hen manure mixed with sand.

Draw the soil away carefully from around each plant, making a basin about a foot across. Scatter into it one-half a trowelful of sheep or hen manure, not more. Pour in slowly a large bucketful of water, and after the water has disappeared, draw the dry soil over the hole to act as a mulch.

Sheep and hen manure are strong in nitrates, and produce vigorous top growth. Too much of it is at the expense of the roots. Too much will also "draw" the stems, weakening them so that they cannot hold up the heavy blooms.

A backward plant may have a second dose of fertilizer a fortnight later.

DISBUDDING.

It takes much courage to disbud Dahlias. Usually three flower buds appear at the end of the stem. When they are the size of peas, take the two side buds off, leaving the central bud to develop. If the side bud is left to develop, and the central bud removed, the bloom will have a crooked stem. Sometimes more buds appear at the joints further down the stem. Remove as many as desired, according to the size wanted for the terminal flower, and the length of the stem wished for cutting.

One cannot disbud too severely, for it helps rather than hinders the plant. It is best to go over the plants every day, during the blooming season, for the buds appear sometimes in a few hours. It takes but a few minutes, and soon each blossom becomes an intimate friend as we watch it unfold each day.

Do not be in a hurry to cut a Dahlia bloom. Some types take a week to reach their full glory. Then cut with a long stem never less than 18 inches if it can be helped, and better four feet if possible. It is better for the plant, and the bloom shows to finer advantage on a long stem.

STORAGE OF ROOTS.

When a sharp frost has at last killed the tops, the plants should be allowed to stand a few days to dry. The stalks may then be cut back to within two or three inches from the ground. Remove the stakes, and lift very carefully with a fork. Tip them upside down at once, to allow the water to drain out of the hollow stems, and place them in a cool shed, free from frost, to dry for a few days.

Pack only in clean sand. There is no other method as simple and as sure. Place the boxes which are to hold them, in a cool dry cellar where there is no danger of freezing, and yet where the furnace heat cannot reach them. Line the boxes with clean newspaper and fill to a depth of two or three inches with sand, fresh from the pit. Place the clumps close together on this, and pour in more sand until every tuber is completely covered. The sand will settle as it dries, and it is well to put more in later if any tuber is exposed. After that they need not be disturbed until Spring.

Three hundred plants, after they are in the ground should take less than an average of an hour a day. So with a few how very little time the "Back Yard Amateur" need spend; and how great his reward his own story will tell at the end of the season!

The known history of the Dahlia covers a considerable period, and teems with interest to those who are concerned with plant development. One hundred and ten years ago one of the forms of *Dahlia variabilis* flowered for the first time in this country, and now the descendants of this Mexican species are so numerous and diverse as to render it difficult to realize that they have decended from the species that bloomed in Fraser's nursery in 1802. The fact illustrates in a remarkable degree the amount of variation that is sometimes to be found in a single species.—GEO. GORDON.

"The Earliest Flowering Dahlias."

Varieties that blossom early, are usually sure to give satisfaction, which makes them very desirable. The number of early bloomers is comparatively limited, but they all have good stems, produce medium to large flowers, and continue to produce them throughout the season.

Frank A. Walker, a deep lavender-pink Decorative, is usually the first of my Dahlias to blossom, and as it is large and has good stems, seems to be one of the most popular of the varieties of more recent introduction. *Darlene* is always in blossom at the same time, and is equally good, with colors similar to the old Pond Lily Dahlia, but a far better and more desirable blending of pink and white. *Mina Burgle*, which is one of the very finest deep brilliant red varieties in existence at this time, is another of the early and continuous blossoming varieties. This variety was originated in California, and seems to be one of the most popular of the varieties of recent introduction. In Cactus Dahlias, *Mrs. Henry Wirth* stands out prominently as one of the earliest. This is a very rich deep red, with medium sized flowers, which are produced abundantly. Although not as early, *Countess of Lonsdale* is one of the most popular and satisfactory of the Cactus Dahlias, and should be in every garden. Among the white Dahlias, *Queen Wilhelmina*, is one of the most reliable, being a large fluffy semi-double flower on long graceful stems. All pompon or minature flowering Dahlias are early, and in mass plots of one color, make a very effective showing.

J. K. ALEXANDER.

The schedule of prizes of the New York State Fair and Agricultural Exposition just came to my attention, and as I notice a large number of premiums are offered for Dahlias, both to amateur and professional, believe all flower lovers in that locality will be interested.

The premiums are very attractive to the amateur, as if you have six named varieties, of one class, which are of good quality you will be able to enter for the premium. All flower lovers who do not have Dahlias of sufficient quality to enter their own, should visit the Floral Building, as then is a good time to make your selection for next spring planting. You have the advantage of seeing the colors and types, and making comparisons with others, which is far better than when you wait until spring, when you must search over countless names, which are meaningless if one is not well acquainted with Dahlias.

You may secure a copy of the advanced premium list by addressing Mr. David Lumsden, Supt., Ithaca, N.Y.

J. K. ALEXANDER.

Native Blue Gentians.

Two of the most beautiful of our native wild flowers that appear to be but little known excepting by name or poetical allusions, are the closed or bottle Gentian botanically known as *Gentian Andrewsii* and the fringed Gentian (*Gentiana crinita.*)

The closed or bottle Gentian resembles somewhat in shape and habit of growth, the Phlox *maculata*. The foliage is of a pleasing bright green and its flowers that appear at the top of its tall erect stems in rosettes or clusters are of the deepest blue at the top, blending to a lighter blue at the base. These large bud-like flowers are not only beautiful but extremely interesting because they possess the unusual and peculiar characteristic of never really opening; that is, they remain closed like a bud, or "bottled up," hence probably the common name. The closed Gentian which may be found from August until November, in marshes or along the borders of moist meadows or woodlands, is a hardy perennial and endures transplanting, but its less common and more beautiful relation, the fringed Gentian is not only more difficult to domesticate but is also less easy to find. Indeed, it is most elusive as it actually changes its hiding place from year to year. My "springy" meadow is a favored haunt; still each autumn must I tramp about this four acre tract seeking to locate these shy blossoms that I know are somewhere concealed. For ages, poets have extolled the Violet, but for modesty, the fringed Gentian is its equal.

In color this dainty retiring flower is of the purest cerulean blue – truly not unlike a fragment of sky come down to earth, and in form it is molded along perfect classical lines. The artist's "line of beauty" twice repeated describes its vaselike outlines and correctness of proportion. A more beautiful flower it would be difficult to imagine. All those who know this rare flower in its haunts, or have had the good fortune to see specimens, are most enthusiastic in its praises. The fringed Gentian delights in rather moist meadows or "woodsy" locations and comes into bloom in this section (southern New York) about the middle of September. As William Cullen Bryant so aptly and beautifully expresses it in the following stanzas:

> Thou blossom bright with Autumn dew,
> And colored with the Heaven's own blue,
> That openest when the quiet light
> Succeeds the keen and frosty night.
>
> Thou waitest late, and com'st alone,
> When woods are bare and birds are flown,
> And frost and shortening days portend
> The aged year is near his end.
>
> Then doth thy sweet and quiet eye
> Look through its fringes to the sky,
> Blue – blue—as if that sky let fall
> A flower from its cerulean wall.

The pity of it is that this floral treasure is so rare and appears to be less frequently seen than in former times, also that most attempts to transplant it to home gardens have proved unsuccessful. Then, too, with the encroachment of civilization, this shy flower has receded and so is seldom found anywhere near centers of population. Its late-blooming habit, which often prevents its seed from reaching full maturity, is also a potent factor in the threatened extermination of this exquisitely lovely wilding, whose habitat is over comparatively a restricted area of North America.—BERTHA BERBERT-HAMMOND in *Gardeners' Chronicle.*

The Trees.

The trees have music of their own, a soft and soothing monotone, that lulls a man to rest. I have a volume to peruse, but, under them, I snore and snooze, my chin upon my breast. To sit beneath a swaying birch is much like being in a church; your drowsy eyelids close and to the realms of dreams you hie, until an active, loathsome fly camps down upon your nose. How often I have lain awake until I saw the morning break, and slumber would not come; and I would sadly leave the hay, to face another toilsome day, all punk and on the bum. My nights are often things of dread, I toss around upon my bed, and find no comfort there; but when I sit beneath a tree, the sweet restorer comes to me, its coattails in the air. The trees have voices sad and sweet, their world-old music they repeat, a solemn. sylvan choir; the same old song they used to sing when Earth was but a half-baked thing, and mortals worshipped fire. They croon their mournful lullaby while men are born, grow up and die, they sigh with every breeze; and when I quit this vale of tears I hope to sleep a million years beneath the nodding trees.—WALT MASON in *The Canadian Countryman.*

Index for Volume VI (1919) THE FLOWER GROWER is ready and may be had for 10c. in stamps by those who wish to have their copies bound. We can furnish bound copies postage prepaid to any part of the world for $2.50. THE FLOWER GROWER we believe will become increasingly valuable as the years pass.

The Big Gladiolus Show in Boston.

Combination Exhibit of Three Societies Gives Eastern Flower Lovers a Rare Treat.

THE eleventh annual exhibition of the American Gladiolus Society and the first annual exhibition of the Massachusetts Gladiolus Society, and the regular annual Gladiolus show of the Massachusetts Horticultural Society, on August 14th and 15th, has passed into history, and the largest display of Gladiolus bloom in one hall was the result.

Although several of the large growers who have shown regularly during the past few years, like B. Hammond Tracy, Arthur Cowee, John Lewis Childs and J. K. Alexander, were absent, yet there were so many new exhibitors that the show was a pronounced success. While it is true that weather conditions were not, by any means, ideal for the showing of high quality bloom, yet from the fact that near-by growers brought in bloom fresh each day, the show was kept freshened up, and it may be said that no such show of fine bloom has ever been staged before.

Boston, as a show town for flower lovers, can hardly be excelled. Not only was the show well attended on both days in spite of unfavorable and threatening weather conditions, but the daily papers of Boston were extremely liberal in the publicity given the show, both in advance, and in their reports of the show while in progress. There is no doubt but what the show was the greatest and finest thing of its kind on record, either in the United States or foreign countries.

Transportation difficulties made it exceedingly difficult for some exhibitors to get their stock through and some stock did not arrive in time for exhibition. Other exhibitors shipped early so as to be sure and be on the ground in time and this necessarily resulted in a deteriorated quality of bloom exhibited.

One of the exceedingly satisfactory and encouraging things about the show was the large number of exhibitors. No Gladiolus show in recent years has brought out such keen competition as this combination show of the three societies. Not only were the commercial growers well represented, but an unusually large number of non-commercial or amateur growers were in evidence and made entries in the various classes.

The keen interest which has been noted of late years in the growing of seedlings was especially a noteworthy feature of the show. These were shown not only by commercial growers, but by amateurs as well. Any seedling, to secure a place as a commercial variety in future, must have exceedingly high quality, and the seedlings shown were unusually fine.

AMERICAN GLADIOLUS SOCIETY, ANNUAL MEETING.

The annual meeting of the society held in Horticultural Hall, Boston, Mass., at 3 P. M. August 14th, was well attended, and a number of ladies were present. Prest. H. E. Meader occupied the chair. The report of Prof. A. C. Beal, the Secretary, which is given below together with the Treasurer's detailed report of receipts and expenditures, indicated a prosperous condition of the society.

No election of officers was held as the election was held last year at the Detroit meeting and was for two years.

Two new members of the executive committee were elected, J. J. Prouty of Baldwinsville, N.Y., and Frank E. Bennett of St. Thomas, Ont. T. A. Havemeyer was given a place on the exhibition committee. The nomenclature committee remains the same as last year. Present officers of the society are as follows: President, H. E. Meader, Dover, N. H.; Vice-President, C. R. Hinkle, St. Joseph, Mich.; Treasurer, Madison Cooper, Calcium, N.Y.; Secretary, A. C. Beal, 212 Kelvin Place, Ithaca, N.Y.; Executive Committee, J. J. Prouty, Joe Coleman and Frank E. Bennett.

Frank E. Bennett, President of the St. Thomas Horticultural Society, made a very cordial and emphatic address inviting the American Gladiolus Society to cross the border for one meeting and partake of the hospitality and friendship of its Canadian members. St. Thomas has a Horticultural Society which is unique and unusual, and the enthusiasm displayed there has no peer in America at the present time. It is to be hoped that suitable arrangements can be made to hold the next show in St. Thomas, Ont.

The resignation of Prof. Beal as Secretary was considered, to enable him to give more time to plant research work, but the society refused to accept his resignation, and after much urging Prof. Beal agreed to continue the work for the present.

Considerable discussion was given to plant quarantine No. 37, but no definite action was taken at the meeting. There was a division of sentiment, but the majority of the members seemed to be opposed to the quarantine. It is probable that the society will have a representative at the next conference.

President Meader's address was as follows:

PRESIDENT'S ADDRESS.

Members of the American Gladiolus Society and Friends:

This, our annual meeting, is especially noteworthy as the tenth anniversary of the founding of the American Gladiolus Society.

It is extremely appropriate that it be held in these spacious halls, as the initial meeting was held here, and the charter list opened to members.

To the efforts of the late Maurice Fuld and other Gladiolus lovers, we are indebted for the auspicious starting of our society with a list of 137 names, which has since increased very creditably and satisfactorily, with also a considerable foreign membership.

Looking backward over the past ten years we find a steadily increasing enthusiasm for the Gladiolus, which, as a most beautiful, adaptable and useful flower, has justly taken its place as the leading summer flower.

Its long continued blooming season, its ability to thrive under great variations of climate, soil and location, its freedom from insect pests, and its wonderful range of color, surpassing all other flowers in versatility of bloom, endear it alike to amateur and professional.

Our noted American hybridists are constantly and painstakingly working toward still further improvements, and each year shows a constant advance, a notable instance being the popular Primulinus Hybrids which have gained in public favor by leaps and bounds.

Ten years ago the possibilities of the Primulinus crosses were practically unknown, and what wonders may we expect in ten years more of progress.

The adaptability of the modern Gladiolus for greenhouse and cold frame forcing is becoming better known each year, and florists are rapidly recognizing the ease of indoor culture, and the profit from forced blooms which meet with ready sale.

There are many more varieties nowadays suitable for forcing finer and larger blooms and better colors than those of a decade ago.

In spite of the continual advance of the Gladiolus, we look forward to still greater improvement and feel that we are still on the threshold of the future, justly anticipating with the passing of time, the pleasure of greeting newer marvels of beauty, evolved by work and patience, the twin pillars of progress in horticultural endeavor, as well as in other fields.

There are many things I would like to say, but time presses, and our meetings are seldom, also we have more serious business.

Before closing, I would recommend that we take some action respecting the death of our friend and founder Maurice Fuld, making suitable recognition of his work in the society. A genial, attractive personality, his pleasant smile and cordial handclasp will be missed.

I wish to thank my associates in office for their aid and co-operation and would urge every member to use their best efforts to the continual improvement and progress of our society.

I am especially grateful to THE FLOWER GROWER, also the florists' trade papers whose relations with the society have been uniformly pleasant.

To the Massachusetts Horticultural Society I extend our thanks for their unremitting hospitality.

And finally to the newly organized Massachusetts Gladiolus Society we cordially offer our very best wishes, hoping that the coming years will add greatly to their prestige and prosperity.

H. E. MEADER, Prest.

REPORT OF THE SECRETARY A. G. S.

There are now 351 names on the rolls of the American Gladiolus Society. Of these there were 270 paid up members in 1919-20. Some are now sending last year dues with their remittance for this year. Thus it will be seen that actual paid up membership is somewhat fluctuating but as a rule few members are dropped for failure to send in their dues. This shows a good live membership and it should be our purpose to increase it to a minimum of at least 500 members which would enable the society to extend its activities. There have been inquiries concerning life memberships which this society has not as yet provided. The Executive Committee should be directed to consider and report upon this question. Last year the society voted to eliminate the initiation fee and our experience thus far indicates that it was beneficial to the society.

The society was represented at the recent conference held June 15, 1920, to consider Quarantine 37 and its possible revision. It would seem desirable that this subject be discussed and some action taken by the society.

Among those of our members taken by death during the past year was Maurice Fuld, a charter member of our society, as well as one of our most active members. Mr. Fuld was always interested in Gladioli and when possible he never failed to attend and to take part in our meetings. His live personality and his keen enthusiasm for the advancement of floriculture will be greatly missed in florist meetings.

Another man pre-eminent in his profession, who recently passed away was Patrick O'Mara of the well-known firm of Peter Henderson & Co. The writer can vouch for Mr. O'Mara's interest and great knowledge in Gladioli from correspondence which he had with him. He had great talents of leadership and his wise counsel and forceful personality is very much needed at the present time. His interest covered the entire field of American floriculture and his death creates a gap which it will be difficult if not impossible to fill.

In concluding this last report as your secretary I wish to say that I have enjoyed the work and regret that pressure of my investigation work has made it necessary for me to give up the office. I feel, however, that the country is back on a more normal basis and some one can be found who can give the office the time necessary to properly care for the work. My desire is to resume more actively investigations on Gladioli—a field in which I can probably render a better service to the society than as your secretary. However, if I can help out I shall always be at your service. I shall miss the opportunity afforded by the duties of secretary to make acquaintances among the members but you may count on my interest and support in any good work. The society has grown in members since 1917 and I believe it is destined to increase year by year. May the society live long and prosper is my sincere wish and hope.

A. C. BEAL, Sec'y.

REPORT OF THE NOMENCLATURE COMMITTEE.

Several applications to register Gladioli were received during the year. It was originally the requirement that varieties should be grown on the trial grounds at Cornell so that the merits of the new variety could be compared with existing varieties. Owing to the shortage of labor and more especially of the lack of capable and trained assistants the trial ground work had to be given up. Since it was not possible to grow the variety it became a custom to require that blooms be sent the chairman of committee. During the war period few varieties were submitted for registration but the applications increased many times this year. It seems desirable to return to former practice and it is the hope of the Department of Floriculture to resume testing work on a large scale next season. It may be said, however, that we have grown a few new varieties each year and that some of these are worthy of registration.

At the present time there is considerable discussion of horticultural nomenclature and some persons are advocating some sort of a Bureau of Registration at Washington. It is no doubt desirable to have some sort of a register of names to prevent different varieties receiving the same name. Since no complete description of each variety of every flower can be made which will enable anyone under all conditions of climate and soil to positively identify many of the varieties, and since no person can know all existing varieties of some of the larger groups of flowers like Roses, Gladioli, Peonies, Irises, Phloxes, Dahlias, Tulips, Hyacinths, Narcissi, Sweet Peas, etc., some of us are wondering how it will be possible to prevent or even to materially lessen the bestowing of different names on the same thing. Allow me to illustrate. When the Peony collection was assembled at Cornell it was supposed that there were 1600 varieties but when the committee on nomenclature of the Peony Society finished its work there were between 400 and 500 distinct sorts in the entire collection. In other words there were about 1100 perfectly good names on the waiting list. In one case a certain variety appeared under eleven distinct names. It is quite probable that, if we had had a registration bureau at that time, many if not all these names would have been listed. No recording clerk anywhere can do more than list names. It would seem to be clear, therefore, that the effort to secure and fix distinct names is after all only a very small part of the question. Trial grounds of all the leading flowers should be established, not necessarily in one locality, and the varieties studied by the most capable men. For this purpose there should be carefully selected growers appointed on committees to examine the growing plants. Some progress has been made along this line by certain societies but more and more systematic work needs to be done.

There is another aspect of this matter that should not be lost sight of. The American Carnation Society and the American Chrysanthemum Society control very efficiently the introduction of new varieties by requiring that the flowers be exhibited and passed upon by a committee of competent growers or dealers. The flowers are commercial cut flowers and there is little probability that there will be the incentive to grow new varieties of Carnations and Chrysanthemums to the same extent that some garden flowers are produced. In the case of certain out-door flowers long lists of varieties were grown before the special societies were formed, or there is no special society for the particular flower. The Phlox is an example of the latter type. The problem is, therefore, to reduce existing lists and establish more exacting standards for the new varieties. The growers must establish these standards and enforce them.

What is required, therefore, is a central recording office which should register varieties after these have been passed upon by experts either while growing in a trial ground under neutral control or on exhibition before the members of a special society interested in the flower, or by both means. The possibilities of renaming either, innocently, or purposely, would be reduced, at least, to minimum. My earnest hope is that the various societies will keep this under their own control in so far as the determination of what varieties shall be recorded or registered is concerned. It is, indeed, gratifying to find the horticultural interests working out this problem themselves instead of leaving it to some future federal board or office with its arbitrary rules. The American Gladiolus Society, I am sure, will wish to co-operate in any worth-while effort to establish Gladiolus nomenclature on a more definite basis. Along this line the writer set about compiling names of the variety names of Gladioli as catalogued by the commercial growers. I was very much surprised to find my list embracing 605 names. Most of these occur once or twice while some like *America*, *Mrs. Francis King*, *Mrs. Frank Pendleton*, *Niagara* and *Peace* occur in nearly every list. There are 106 varieties offered by five or more growers. Some of the varieties are new and consequently the stock is entirely in the hands of the introducer. On the other hand some varieties are old and deserve extinction. Now I think the list of Gladioli is too long. Even though range of color and of color markings is perhaps greater than in any other flower, nevertheless it would seem that 150 varieties ought to be extensive enough. We wish further improvement in Gladioli, but are there not too many inferior, too many closely alike, possibly too many freakish, or odd things in our lists? What should this society do about this matter if any or all these questions can be answered affirmatively?

A. C. Beal,
Chairman.

NOTES OF THE SHOW.

As usual H. E. Meader of Dover, N. H., President of the American Gladiolus Society, made an especially fine showing. His *Lilywhite* and *Primulinus Hybrids*, and his display of the florists' art in staging and design work were especially notable. As usual Meader carried off his full share of prizes considering the comparatively few entries made.

S. E. Spencer of Woburn, Mass., Vice-President of the Massachusetts Gladiolus Society, staged a wonderful display of varieties and his "banded" seedlings were of exceeding interest and attracted much attention. Spencer filled a big table with a most excellent quality of bloom besides entering a number of classes.

Jelle Roos of Concord, Mass., was one of the largest exhibitors. He staged between 2,000 and 3,000 spikes, filling several tables and entering many of the classes. He is this year's winner of the Burpee Silver Cup for the largest and best display, which is considered the biggest prize of the show. Over 75 varieties were shown by Mr. Roos, including several of great merit of which he holds the largest stocks.

C. Zeestraten, of the Chautauqua Flowerfield Co., Bemus Point, N.Y., brought with him a collection of 40 Primulinus Hybrids, mostly his own seedlings. His flowers were staged late, owing to railroad delays, and were not staged in competition, but they were staged in the upper lobby and their extra fine quality called forth much favorable comment. Among other varieties were *Chautauqua Sunset*, *Jewel*, *Old Rose*, *Ruby* and *Zephyr*.

Thos. Cogger, of Melrose, Mass., was awarded the American Gladiolus Society silver medal for the best seedling never before exhibited. This has been named *Mrs. Thos. Cogger*.

T. A. Havemeyer, of Glenhead Nurseries, Glenhead, L. I., staged a magnificent table of Gladioli, among them *Golden Measure*, the famous yellow, and *Elizabeth*, an enormous new pink.

Chas. F. Fairbanks, of Lexington, Mass., President of the Massachusetts Gladiolus Society, staged some magnificent bloom, entering many of the competitive classes and capturing many prizes. He secured first for the best general collection.

A. L. Stephen, of Waban, Mass., had the unique honor of winning thirteen first prizes and no seconds.

The varieties, *Mrs. Dr. Norton* and *Mary Fennell*, which won for him the Jelle Roos Cups, were especially fine specimens.

Mrs. G. M. Hawks, of Bennington, Vt., brought from her magnificent collection Gladiolus spikes which won an even dozen awards. She captured the Kunderd Gold Medal for the best display of Kunderd varieties. This was Mrs. Hawks' first experience and she is to be congratulated on her initial success.

Dr. Frank E. Bennett, President of the St. Thomas Horticultural Society of St. Thomas, Ont., was delayed with his collection by late trains, but was able to stage a large collection and was awarded the Michell Silver Medal. Dr. Bennett is to be commended on his good sportsmanship in shipping flowers so far and in staging them in competition with nearby growers.

J. A. Kemp of Little Silver, N. J., showed a fine collection of seedlings. The Kemp varieties are already well and favorably known.

A. Gilchrist, of West Toronto, Ont., staged some fine crosses of *Primulinus* and *America*. These shell pink blooms were greatly admired.

The editor of The Flower Grower staged a collection of the so-called blue varieties of Gladioli, eleven in number, and in remarkably good condition, considering weather conditions and the difficulties of properly growing these varieties.

C. W. Brown, of Ashland, Mass., entered in many of the classes and captured his share of the prizes. His display of the Brown seedlings and Kunderd varieties was especially fine and his collection at the entrance of the hall received special attention from visitors.

Thos. M. Proctor, of Wrentham, Mass., was represented by seedlings and numerous named varieties of merit.

A. E. Kunderd showed a new seedling which was given the Silver Medal of the American Gladiolus Society. This was a remarkably dainty flower of white, edged with pink.

Among other amateurs winning prizes were Joseph Cony, Mrs. H. M. Walker, S. Irving Woody and Herman F. Wheeler.

SCHEDULE OF PRIZES.

Open to All.

No. 1—Best 12 varieties, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00. 1st won by John Zeestraten; 2nd won by Jelle Roos.

“ 2—Best 12 vases, 12 varieties, 1 spike each, 1st prize, $6.00; 2nd prize, $3.00. 1st won by C. F. Fairbanks; 2nd won by Madison Cooper.

“ 3—Best collection White varieties, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00. 1st won by C. F. Fairbanks; 2nd won by Jelle Roos.

“ 4—Best collection Pink or Blush varieties, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00. 1st won by C. F. Fairbanks; 2nd won by Jelle Ross.

“ 5—Best collection Yellow varieties, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00. 1st won by C. F. Fairbanks; 2nd won by Madison Cooper.

“ 6—Best collection Crimson or Red varieties, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00. 1st won by C. F. Fairbanks; 2nd won by S. E. Spencer.

“ 7—Best collection Blue, Purple or Lavender varieties, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00. 1st won by C. F. Fairbanks; 2nd won by Madison Cooper.

“ 8—Best collection any other colors, 3 spikes each, named, 1st prize, $7.50; 2nd prize, $5.00. 1st won by S. S. Thorp.

“ 9 Collections Nos. 3 to 8 inclusive, provided the same exhibitor shows not less than 25 varieties, will be judged for Best Collection. First prize, Silver Medal; 2nd prize, Bronze Medal; 3rd prize, Certificate. 1st won by C. F. Fairbanks.

“ 10 Best Seedling Gladiolus never before exhibited. American Gladiolus Society's medals. First prize, Silver Medal; 2nd prize, Bronze Medal; 3rd prize, Certificate. 1st won by Thomas Cogger; 2nd won by Eugene Fisher; 3rd won by T. A. Havemeyer.

H. E. Meader, Dover, N. H.

No. 11—Best 6 spikes *Lilywhite*. First prize $5; second prize, $3; third prize, $2. 1st won by Madison Cooper; 2nd won by Thomas Cogger.

W. Atlee Burpee & Co., Philadelphia, Penna.

No. 12—Largest and best display, number varieties, quality and staging considered. Burpee Cup valued at $25. The winner taking this cup the third time to hold it permanently. Won by Jelle Roos.

Arthur A. Kirchhoff, Pembroke, N.Y.

No. 13—Best 6 spikes *General Pershing*. First prize, Silver Medal; second prize, Bronze Medal. 1st won by H. E. Meader.

C. Zeestraten, Bemus Point, N. Y.

No. 17—Most artistically arranged vase or centerpiece of not less than 50 spikes of Gladiolus Primulinus. First prize, $10; second prize, $5. 1st won by H. E. Meader.

Tait Brothers Company, Brunswick, Ga.

No. 18—Best 3 spikes Seedling, never before shown. First prize, $5; second prize, $3. 1st won by C. W. Brown; 2nd won by F. O. Sheperdson.

Richard Diener Company, Kentfield, Cal.

No. 20—Best spike *Mrs. Wm. Kent*. 1st prize, $3.00; 2nd prize, $2.00. 1st won by Madison Cooper.

No. 21—Best spike *Anna Eberius*. 1st prize, $3.00; 2nd prize, $2.00. 1st won by C. L. Stephens; 2nd won by Mrs. M. B. Hawks.

No. 22—Best spike *Diener's American Beauty*. 1st prize, $3.00; 2nd prize, $2.00. 1st won by Madison Cooper.

No. 23 Best spike *Jack London*. 1st prize, $3.00 2nd prize, $2.00. 1st won by Madison Cooper.

United Bulb Co., Mount Clemens, Mich.

No. 32—Best collection of Blue Gladioli not to exceed 5 vases, 3 spikes to the vase. First prize, $15; second prize, $10. 1st won by Madison Cooper; 2nd won by S. S. Thorp.

No. 33—Best collection of Yellow Gladioli not to exceed 5 vases, 3 spikes to the vase. First prize, $15; second prize, $10. 1st won by Madison Cooper; 2nd won by Jelle Roos.

A. E. Kunderd, Goshen, Ind.

No. 34—Largest and finest collection of Kunderd varieties of Gladioli. First prize, Gold Medal; 2nd prize, twenty dollars' value in choice Gladiolus bulbs; third prize, fifteen dollars' value in choice bulbs. 1st won by Mrs. M. B. Hawks; 2nd won by Madison Cooper.

No. 35—Best display of Kunderd Primulinus Hybrids, not less than ten varieties, 3 spikes in each variety, 1 variety in a vase. First prize, fifteen dollars' value in choice Gladiolus bulbs. Won by C. F. Fairbanks.

No. 36—Best display of the finest spike of any Kunderd variety. First prize, five dollars' value in choice Gladiolus bulbs. Won by A. L. Stephen.

A. H. Austin Co., Wayland, Ohio.

No. 38—The largest and best display of the Austin originations. First prize, $5; 2nd prize, Bronze Medal; 3rd prize, $2. 1st won by Madison Cooper.

The R. E. Huntington Co., Mentor, Ohio.

No. 39—Best spike *Purple Glory*. First prize, $2.50; 2nd prize, $1.50; 3rd prize, $1. 1st won by C. F. Fairbanks; 2nd won by S. E. Spencer.

No. 40—Best 2 spikes *White Glory*. First prize, $2.50; 2nd prize, $1.50; 3rd prize, $1. 1st won by C. F. Fairbanks; 2nd won by Mrs. M. B. Hawks.

No. 41—Best 3 spikes *Orange Glory*. First prize, $2.50; 2nd prize, $1.50; 3rd prize, $1. 1st won by Mrs. M. B. Hawks.

Non-Commercial Classes.

In these classes the successful exhibitors and their respective winnings were as follows: A. L. Stephen, 13 firsts; Madison Cooper, five firsts and eleven seconds; Mrs. M. B. Hawks, three firsts and nine seconds; Peter Roberton, two firsts and two seconds; Joseph Cony and Mrs. H. M. Walker, each one first and one second; S. Irving Woody, two seconds; and Herman F. Wheeler, one second.

The Massachusetts Gladiolus Society.

SCHEDULE OF PRIZES.

Open to All.

Charles F. Fairbanks, Lexington.

No. 1—Best collection, 25 varieties, 3 spikes each First, $5; second, $3; third, $2., and The American Gladiolus Society—Silver Medal to first; Bronze Medal to second. 1st won by Thos. Cogger, Melrose, Mass; 2nd won by John Zeestraten, E. Bridgewater, Mass.; 3rd won by Jelle Roos, Concord, Mass.

No. 2—Best collection, 12 varieties, 3 spikes each. First, $4; second, $2; third, $1. 1st won by Jelle Roos; 2nd won by Robt. R. Walker, Mansfield, Mass.

(Must have distinct varieties to compete in both of the above classes.)

No. 3—3 vases, 3 spikes, 3 varieties, Ruffled. First, $4; second, $2; third, $1. Won by H E. Meader, Dover, N. H.

No. 4—1 vase, 6 spikes, 1 variety, Lavender or Mauve. First, $3; second $2; third, $1. 1st won by S. S. Thrope, Medway, Mass.; 2nd won by S. E. Spencer; 3rd won by H. E. Meader.

No. 5 1 vase, 6 spikes, 1 variety, Pink with blotch. First, $3; second, $2; third $1. 1st won by S. E. Spencer; 2nd won by Thos. Hughes, New Bedford, Mass.

No. 6—1 vase, 6 spikes, 1 variety, Primulinus Hybrid Orange. First, $4; second, $2; third. $1. 1st won by H. E. Meader; 2nd won by S. E. Spencer; 3rd won by M. B. Hawks, Bennington, Vermont.

No. 7—1 vase, 6 spikes, 1 variety, Primulinus Hybrid Yellow. First, $4; second, $2; third, $1. 1st won by S. E. Spencer; 2nd won by C. W. Brown, Ashland, Mass.; 3rd won by E. M. Smith, East Hartford, Conn.

No. 8—1 vase, 6 spikes, 1 variety, Primulinus Hybrid Pink. First, $4; second, $2; third, $1. 1st won by C. W. Brown; 2nd won by S. E. Spencer.

No. 9—1 vase, 6 spikes, 1 variety, Primulinus Hybrid A. O. C. First, $4; second, $2; third, $1. 1st won by. C. W. Brown.

No. 10—Best seedling not in commerce. The American Gladiolus Society Medal. First prize, Silver Medal; second prize, Bronze Medal. 1st won by John Zeestraten; 2nd won by H. E. Meader.

Honor of mention to J. A. Kempt, Little Silver, N. J., for best seedling, *Pink Wonder*.

No. 11—Best Primulinus seedling not in commerce. First prize, Silver Medal; second prize, Bronze Medal. 1st won by H. E. Meader; 2nd won by Chas. F. Fairbanks, Lexington, Mass.

SPECIALS.

Jelle Roos, Concord.

(Open also to florists.)

No. 12—Best vase, 3 varieties, 3 spikes each, arranged for effect, any foliage. First prize, Silver Medal; second prize, Bronze Medal; third prize, Bronze Medal. 1st won by H. E. Meader; 2nd won by Boston Cut Flower Co., Bromfield St., Boston, Mass.

No. 13 Best vase, 25 spikes. Primulinus Hybrids. Not more than 5 spikes of a variety, First prize, $5; second prize, $3; third prize, $2. 1st won by C. W. Brown; 2nd won by Madison Cooper, Calcium, N.Y.; 3rd won by Thos. Proctor, Wrentham, Mass.

C. W. Brown, Ashland.

No. 14—Best collection of Reds, 1 spike each. Not less than 10 varieties. First prize, $5; second prize, $3; third prize, $2. 1st won by J. Zeestraten; 2nd won by Jelle Roos.

Joseph Breck & Sons Corp.

No. 15—Best vase, 6 spikes, 1 variety, White.

Best vase, 6 spikes, 1 variety, shades of Yellow or Orange.

Best vase, 6 spikes, 1 variety, Lavender or Purple.

First prize, $5; second prize, $3; third prize, $2. 1st won by H. E. Meader; 2nd won by H. F. Wheeler, Lexington, Mass.; 3rd won by Thos. Proctor.

S. E. Spencer, Woburn.

No. 16—Best vase 6 spikes, *Schwaben*. First prize, $3; second prize, $2. 1st won by Thos. Cogger; 2nd won by Mattapoissett Flowerfields, Mattapoissett, Mass.

J. K. Alexander, E. Bridgewater.

No. 17—Best vase, 12 spikes, *Peace*. First prize, $5; second prize, $3; third prize, $2. 1st won by H. E. Meader.

Arthur Hans, Billerica.

No. 18—Best vase, 12 spikes, *America*. First prize, $5; second prize, $3; third prize, $2. 1st won by Thos. Cogger; 2nd won by C. W. Brown; 3rd won by S. E. Spencer.

John Zeestraten, Mansfield.

No. 19—Best vase, 6 spikes, *Panama*. First prize, $5; second prize, $3; third prize, $2. 1st won by Edgar Wilson, Worcester, Mass; 2nd won by S. E. Spencer; 3rd won by H. W. Hayes, Waban, Mass.

Robert R. Walker, Mansfield.

No. 20—Best vase, 6 spikes, *Prince of Wales*. First prize, $5; second prize, $3; third prize, $2. 1st won by C. W. Brown; 2nd won by H. E. Meader; 3rd won by S. S. Thrope, Medway, Mass.

B. Hammond Tracy, Inc., Wenham.

(Open also to florists)

No. 22—Best Table Decoration using Gladioli with other foliage. Cut Glass Bowl, value $15. Won by Penn The Florist, Tremont St., Boston, Mass.

Carter's Tested Seeds, Inc., Boston.

No. 23—Best 3 vases, 3 varieties, 6 spikes each, Pink. First prize, $5; second prize, $3. 1st won by F. H. Hughes: 2nd won by H. E. Meader.

FOR AMATEURS AND PRIVATE GARDENERS.

Charles F. Fairbanks, Lexington.

No. 25—6 vases, 1 spike each, 1 or more varieties, White. First prize, $3; second prize, $2; third prize $1. 1st won by J. A. Kempt, Little Silver, N. J.; 2nd won by H. W. Hayes; 3rd won by Thos. H. Hughes.

No. 26—6 vases, 1 spike each, 1 or more varieties, Pink. First prize, $3; second prize, $2; third prize, $1. 1st won by H. W. Hayes, Waban, Mass.; 2nd won by David Tyndall, Brocton, Mass.; 3rd won by F. H. Goodwin, Melrose, Mass.

No. 27—6 vases, 1 spike each, 1 or more varieties, Red. First prize, $3; second prize, $2; third prize, $1. 1st won by H. W. Hayes.

No. 28—6 vases, 1 spike each, 1 or more varieties, Yellow. First prize, $3; second prize, $2; third prize, $1. 2nd won by J. A. Kempt.

No. 29—6 vases, 1 spike each, 1 or more varieties, A. O. C. First prize, $3; second prize, $2; third prize, $1. 1st won by Albert Lehan, Mansfield, Mass; 2nd won by David Tyndall, Brocton, Mass.; 3rd won by B. H. Morley, Roslindale, Mass.

No. 30—6 vases, I spike each, 1 or more varieties, Primulinus Hybrid. First prize, $3; second prize $2; third prize, $1. 1st won by Dr. Moody, Brocton, Mass.; 2nd won by H. W. Hayes, Waban, Mass.; 3rd won by Chas. N. Dewey, Gardner, Mass.

SPECIALS.

A. L. Stephen.

No. 31—Silver Medal, for the best quality of bloom in the above classes. Won by H. W. Hayes.

R. & J. Farquhar & Co., Boston.

No. 32 Best vase, 6 spikes, 1 or more varieties, arranged for effect, any foliage may be used. First prize, $6; second prize, $4. 1st won by B. H. Morley.

Thomas Cogger, Melrose.

No. 33—Best 6 spikes, *Helen Franklin*. First prize, $3; second prize, $2. 1st won by H. E. Meader, Dover, N. H.; 2nd won by Madison Cooper, Calcium, N.Y.

The Massachusetts Horticultural Society.

SCHEDULE OF PRIZES.

Open to All.

Hillcrest Farm.

No. 237—1 vase, 6 spikes, 1 variety, White, First prize, $4; 2nd, $2; 3rd, $1 1st won by H. E. Meader with *Lily White*; 2nd won by T. E. Proctor with *Glory of Holland*; 3rd won by H. E. Meader with *White King*.

No. 238—1 vase, 6 spikes, 1 variety, Red. First prize, $4; 2nd, $2; 3rd, $1. 1st won by C. S. Spencer with *Liebesfeuer*; 2nd won by Mrs. Arthur Leeker, Falkner Farms; 3rd won by Jelle Roos with *Mrs Francis King*.

No. 239—1 vase, 6 spikes, 1 variety, Crimson. First prize, $4; 2nd, $2; 3rd, $1. 1st won by S. E. Spencer with *Crimson King*; 2nd won by Falkner Farms with *Neoga*; 3rd won by H. E. Meader with *Splendorra*.

No. 240—1 vase, 6 spikes, 1 variety, Pink. First prize, $4; 2nd, $2; 3rd, $1. 1st won by S. E. Spencer with *Pink Perfection*; 2nd won by C. F. Fairbanks with *Evelyn Kirtland*; 3rd won by Falkner Farm with *Rose Glory*.

No, 241—1 vase, 6 spikes, 1 variety, Yellow. First prize, $4; 2nd, $2: 3rd, $1 1st won by. C. F. Fairbanks with *Yellow Hammer*; 2nd won by McKinock Gardens with *Schwaben*: 3rd won by Madison Cooper with *Niagara*.

No. 242—1 vase, 6 spikes, 1 variety, A. O. C. First prize, $4; 2nd, $2; 3rd, $1. 1st won by S. S. Thrope with *Mrs. Dr. Norton*; 2nd won by C. F. Fairbanks with *Loveliness*; 3rd won by T. E. Proctor with *Loveliness*.

No. 243—1 vase, 6 spikes, 1 variety, any Lemoinei Hybrid. First prize, $4; 2nd, $2; 3rd, $1. 1st won by S. E. Spencer with *Mrs. Frank Pendleton*; 2nd won by Madison Cooper with *Mme. Mounet Sully*; 3rd won by T. E. Proctor with *Ida Van*.

No. 244—1 vase, 6 spikes, 1 variety, any Primulinus Hybrid. First prize, $4; 2nd, $2; 3rd, $1. 1st won by C. F. Fairbanks with *Alice Tiplady*; 2nd won by H. E. Meader with *Alice Tiplady*; 3rd won by S. Irving Moody with *Florian*.

No. 246—Best Displav. First prize, $15; 2nd, $10; 3rd, $5. 1st won by Brookland Gardens, S. E. Spencer, Prop.; 2nd won by Thos. Cogger.

FOR AMATEURS AND PRIVATE GARDENERS.

S. E. Spencer, Woburn.

No. 250—Best vase, 6 spikes, *Mrs. Frank Pendleton*. First prize, $3; 2nd, $2. 1st won by A. L. Stephen; 2nd won by H. W. Hayes.

H. E. Meader, Dover, N. H.

No. 251—Best vase, 6 spikes, *Myrtle*—Cut Glass Vase, value $10. Won by David Tyndall.

Jelle Roos, Concord.

No. 252—Best vase, 6 spikes, *Mrs. Dr. Norton*—Silver Cup. Won by A. L. Stephen.

No. 253—Best vase, 12 spikes, *Mary Fennell*—Silver Cup. Won by A. L. Stephen.

A. L. Stephen, Waban.

No. 254—Best 10 vases, 10 varieties, 1 spike each. First prize, $3; 2nd, $2; 3rd, $1. 1st won by H. W. Hayes; 2nd won by B. & A. Naley.

Massachusetts Gladiolus Society.

Annual Meeting.

At a meeting of the Massachusetts Gladiolus Society, held on Saturday, at 2 P. M., August 14th, it was voted that the name should be changed to the New England Gladiolus Society, thus widening the scope of the organization.

The discussion took place as to the marketing of cut flowers, and a committee was appointed to look over the subject and recommend the best and most prolific commercial varieties.

The same officers were elected for the ensuing year, and they are as follows:

Prest.—Charles F. Fairbanks, Lexington, Massachusetts.

First Vice Prest.—S. E. Spencer, Woburn, Massachusetts.

Second Vice Prest.—John Zeestraten, E. Bridgeport, Mass.

Treas.—C. W. Brown, Ashland, Mass.

Secy.—Robert R. Wheeler, Mansfield, Mass.

THE ROSE

Growing and Showing Climbing Roses.

BY A. J. FISH, (Mass.)

THE growing of climbing Roses for exhibition is a very pleasant hobby. To be successful, you must grow a little better flowers than the other fellow. If you then pick them right and set them up well, your hobby is justified.

CULTURE.

My soil is a sandy loam with a clay undersoil, on high ground with a slight slope to the east, having good natural drainage.

The Roses are planted ten feet apart, in rows, and each tied to a stout stake; this is all the support they have. By the time the stake has rotted off, they are a tangled rose, entwined together, holding themselves up in a level about five or six feet high. Grown this way, every joint will "break" with flowering shoots, and the branches will have good length stems, while those underneath will send up longer ones that are strong enough to hold up all the flowers they produce.

I do not believe in spading in stable manure when planting, but put a mulch of it on top of the ground. When the buds are forming I give them liquid manure dressing, using it weak and often rather than too strong. Bone-meal, wood-ashes and soot are also good if applied between times.

I have learned by experience that fall planting is better for climbers than spring planting. They should be planted as early in the fall as possible, leaving a considerable number of canes on the top; the roots will grow fast, and well into the winter, and there will be some bloom on the old canes the next year.

PRUNING AND DISBUDDING.

On the true ramblers that send up new growth from the roots, cut out the old wood just as soon as they are done blooming, providing they have enough new shoots for a good bush for next season. Such ramblers are never disbudded.

Do not prune the climbers that make their new growth on the plant above ground, unless they get so crowded as to kill the center of the bush.

As climbing Roses seem to have vitality enough to perfect all the buds formed, producing as large flowers as when disbudded, let them all bloom so that the display will be larger. There is no gain in disbudding.

THE BEST VARIETIES.

For exhibition you can use any and all kinds that bloom early enough. My list contains about thirty-five, but the season must be exceptionally propitious to get them all in at the right date. There are some good early bloomers that are not included in my list. I am adding a few varieties every year, and hope to have a good collection in time.

Here is the list of climbing Roses exhibited in 1910. My display was awarded Silver Medals at two shows—Boston and Newport: *Silver Moon, Dr. W. Van Fleet, Christine Wright, Mary Lovett, Bess Lovett, Alida Lovett, Climbing American Beauty, Climbing Lady Ashtown, Tausendschon, May Queen, Baroness von Ittersum, Source d'Or, Gerbe Rose, Francois Guillott, Carmine Pillar, Le Mexique, American Pillar, Miss Helyett, Wedding Bells, Edwin Lonsdale, Goldfinch, Oriole, Prof. C. S. Sargent, Electra, Sanders' White Rambler, Climbing Clotilde Soupert, Wm. C. Eagan, Climbing La France, Robert Craig, Petit Louis, Trier, Jersey Beauty, Schiller* and *Dawn.*

HOW AND WHEN TO PICK.

Roses for exhibition should be picked early in the morning, before the sun shines on them, and with as long stems as possible. As a rule a rose in full bloom is not suitable for showing, as it will not stand up through the exhibit. As buds are not allowable, the flowers must be just about half blown, so they will open enough by the time of judging. There is a great difference in the keeping qualities of different varieties, wherefore the exhibitor should know the peculiarities of every kind he grows. Some can be picked a day ahead of the show, if in the right condition, and put in the water in a cool, dark place; others may be left on the bush until the morning of the exhibition, even if they are full blown. For instance, the flowers of *Baroness von Ittersum*, used at Boston and Newport, had been fully open for a week before the show, yet they stood two days without dropping a petal.

The general belief that a double rose keeps better than a single one does not always hold, for one of the best keepers is the single *American Pillar.* The double yellow climber, *Prof. C. S. Sargent*, will stand up after it has been open for several days, while *Source d'Or* (also a double yellow) does not keep well, even if picked in a less advanced state than the *Sargent. Wm. C. Egan* should be picked early in the morning, when the buds are just opening, to stand up through the show; on the other hand, *Climbing Clotilde Soupert*, with its hard, globular buds, has to be forced with liquid manure beforehand to get it to open enough to exhibit. The large, single *Silver Moon* is a better keeper than a good many of the double varieties, and so on through the whole list. You should know them as parents do their children.

PACKING AND CARRYING TO EXHIBIT.

Florists' corrugated boxes are good carriers for the flowers, as they are light in weight, and when emptied can be knocked down and brought home flat to use again. Put some tissue paper in the bottom of the box, commence with the hardiest buds and flowers at the bottom, then cover with oiled paper, then another layer of flowers and so on. Fill the box full enough to ride well without crushing when cover is on.

Put all of each variety together, so that when you open up they can be put into the receptacles with one handling. If jammed, give the flowers a little shake to straighten out the petals.

GETTING READY FOR THE SHOW.

Indeed, Roses look better picked and set up well than on the bushes. They also cover more table space than anyone would think before they are picked, especially if not crowded—crowding ruins your display.

When the time of the exhibition comes, fill out the entry blank and send to the Secretary of the Show as early as possible, so the committee can have your place all ready for you, as they are always very busy the morning of exhibit. Do not blame the judges if you do not take the first prize; they go by the rules in the schedules the same as you have to. Probably your handling could be improved. A friend of mine spent over one hour setting up five sprays in a vase because the stems were weak and crooked, and then it did not suit him. That vase took first prize, however.

THE ART OF SETTING UP AN EXHIBIT, AND ARRANGING THE COLOR SCHEME.

Some exhibitors learn to set up very quickly, while others make a long job of it. Some do not seem to ever get the knack of doing it. Some exhibits have an indefinable something about them that carries them through, while others with just as good flowers lack it, and do not win out.

Use the longest stems for the back rows, and work down to the shortest ones in front. Do not have too many sprays to a vase; three sprays seem to be about right. Do not crowd the vases.

There are more varieties in white and pink, including a combination of the two colors, than of other colors. These two colors are always harmonious, and you can take care of the different reds if you have plenty of white ones to intersperse.

There are really fewer colors that clash among climbing Roses than in the bush Roses. The *Blue Rambler* is the worst, and should only be used when surrounded by white, or what is still better, set up by itself as a novelty. *Hauff*, a variety intermediate in color between *Blue Rambler* and *Crimson Rambler* should not be exhibited.

Among the Reds, *Baroness von Ittersum* is by far the best in sight, being a clean color, semi-double, with ruffled petals—a very taking variety. *Ards Rover* is of good color, and an early bloomer, with poor stems generally.

After all the flowers are in water, change them around until you get a good effect. To sum up, grow as good flowers as you can, set up to the best of your ability, and take your chance. If beaten, come back again and try until you win.—*American Rose Annual.*

Roses for Automobile Trails.

Chas. G. Adams, Secretary of the Auburn, N. Y., Rose Society is author of a plan to encourage the planting of Roses along what is known as the Finger Lakes Trail, consisting of about 400 miles of state highway.

Such a plan, if consistently followed out, would be of great educational value, besides beautifying the country. Mr. Adams' plan deserves the most careful consideration. It has the approval of the American Rose Society and we hope it will be successful.

Catalogues and Price Lists.

John Lewis Childs, Inc., Flowerfield, L. I., N. Y. Trade list of Irises, Liliums, Peonies, Gladioli, etc.

Paul L. Ward, Plantsman, Hillsdale, Mich.—Fall price list of hardy perennials, Pansies, Irises, Gladioli, house plants, etc.

Buechly's Nurseries, E. M. Buechly, Prop., Greenville, Ohio.—Catalogue and price list of Peonies and Irises.

Clarence W. Hubbard, 6144 Lakewood Ave., Chicago, Ill.—Price list of Peonies and Irises.

W. J. Engle & Son, R. D. No. 8, Dayton, Ohio—Condensed price list of Peonies and Irises for fall 1920. Contains some useful suggestions and a choice list of varieties.

Geo. N. Smith, Wellesley Hills, Mass.—Catalogue and price list for the fall of 1920 and spring of 1921. Irises, Peonies and Phloxes.

Brand Nursery Co., Faribault, Minn.—Descriptive catalog of Brand's American Peonies and a selected list of standard Peonies and Irises from other originators. This is an exceptionally well balanced and well arranged book and should be in the possession of every Peony grower—48 pages and cover, with index. Illustrations are especially fine.

The report of the big Boston Gladiolus show requires so much space this month that necessarily some of our regular departments are omitted. We take the opportunity of announcing, that in future it is our aim to have regular departments in each issue for the Gladiolus, the Peony, the Rose, the Iris, the Dahlia and other flowers.

Queries and Answers Department.

" All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication."

Commercial Fertilizer for Gladioli.

To the Editor : –

Can you give me exact information in regard to the use of commercial fertilizer on Gladioli ? I am trying to find out how high a grade I can use, and how much to the acre, to the best advantage. I am now using 2-8-4. Should any or all of the three forms of plant food, nitrogen, phosphorus or potash be increased? My rows are 225 feet long, making about 97 to the acre, two feet apart. At the rate of a ton to the acre this would figure about 20 pounds of phosphate to the row. Does that seem enough ? The rate of a ton to the acre for most crops is regarded as generous, and yet I would not hesitate to increase that if the crop will be actually benefited. What do you think ? And what is the most successful practice in this regard? Is it best to throw the application all in the row at one time just before planting, and mix the earth or on top immediately after planting ?

W. G. Nyce.

Answer—It is pretty safe to take the quantity recommended by the acre and reduce it to a row as you have. Of course, a ton of phosphate to the acre is a mighty heavy application and we would suggest that it should not be any more than you have figured it, and we are inclined to recommend that it should be less.

In using commercial fertilizers, and perhaps stable manure, wood ashes, sheep manure, and most anything else as a fertilizer for garden crops, there are more mistakes made in applying too much than in applying too little. Personally, we are very cautious about such things and would rather err on the side of under fertilizing, than over fertilizing.

Our impression is not to put the fertilizer in the row before planting, but rather to apply it between the rows as evenly as possible over the surface and cultivate in.

We might suggest in this connection that no commercial fertilizers will take the place of stable manure altogether. In other words, the two should be used together, unless perhaps plenty of manure has been applied during former crop years and the ground is well supplied with humus. Humus is as necessary to good plant growth as are the chemical elements.

Madison Cooper.

Perennial Phlox Blight.

To the Editor :—

I have been troubled, and still have serious trouble with blight on perennial Phlox, on some varieties beginning early in the spring and completely ruining the plants. Have tried spraying with different mixtures which arrest the blight to a certain extent but not preventing it entirely.

Can you advise what kind of preparation is most effective, or what treatment can be given to prevent or cure the disease ?

Am also troubled with rust on Foxgloves. Last year nearly all our young plants were effected and most all died. Would also like some light on a preventive or cure for this.

Would like to hear from your readers through the columns of your magazine as well as your personal experience.

Mrs. D. L. B.

Answer—Apparently perennial Phlox in common with Hollyhocks, Foxglove and other plants of a similar nature, are subject to blight or rust which is prevalent some seasons very much more than others. In this section (Northern New York), 1919 was an exceptionally favorable year for Hollyhocks and perennial Phlox, and this season, 1920, is not far behind. Hollyhocks have made a beautiful display of flowers for some weeks and they and the Phloxes are only just beginning to blight during the first days of August.

We have never used any spray or any other remedy for Hollyhock or Phlox blight or rust. Doubtless some sprays might prove effective, but the difficulty of reaching all parts of the plant makes it almost out of the question for any spray to prove thoroughly effective. We prefer to take our chances on the weather and not go to the trouble of spraying.

If any of our readers can throw additional light on this subject and give us some exact information and suggestions for methods which have proved effective in practice, we will appreciate it not only for our subscriber but for ourself.

Collecting, Storing and Planting Gladiolus Seed.

To the Editor :—

Will you please advise me the proper method in caring for Gladiolus seed ? When the bloom dries on the stalk should the seed be protected in any way, or left open to the air? Also in planting is any special preparation of the ground necessary ?

I. S. K.

Answer—It is a very simple matter to save Gladiolus seed. As soon as the seed pods show brown in color from ripening they may be gathered and stored in any dry place. Experience indicates that Gladiolus seed is very easy to store and that it has good germinating properties after several years' storage.

In planting Gladiolus seed it is not necessary to remove the film or wings with which nature provides it, as many have done. It can just as well be planted as it is shelled out of the pods. It is necessary to remove the seed from the seed pods in order to distribute them evenly in the ground.

No special preparation of ground is necessary other than it should be mellow and rich. The seed should be sowed thickly and covered half to three-quarters of an inch, and to keep the ground moist pieces of thin carpeting or old burlap may be placed over the seed bed and weighted or staked to prevent the wind from blowing it off. When the seedlings begin to appear thickly the covering may be removed, but in dry weather it is sometimes advisable to water with a sprinkling pot or hose spray both before and after removal of the covering.

A Rose Pest.

To the Editor :—

Can any of the readers of your valuable paper, help me out with regard to a new insect pest on my Roses, in particular on the *Grus-an-Teplitz* ? On the tender branch a short distance below the bunch of new buds, the stalk was girdled as neatly as if done with an instrument, about the width of a straw, and half an inch below the first girdle a second was made. My attention was drawn to the bunch of buds hanging down. I could find no insect, even opened the stalk but could discover nothing.

I will be very grateful to any of your readers, if they can tell me just what to do, about this new Rose pest. The girdling looks as if done with a tracing wheel, edges smooth and perfectly made.

Mrs. W. A. Carson.

Madonna Lilies Wanted.

To the Editor :—

Where can I get Madonna Lilies in quantity to make a permanent bed for the sale of cut flowers? The Madonna Lily seems to succeed well the first year, but not the second. Please tell me how to cultivate and get a permanent bed.

Mrs. D. R. Andrews.

Doubtless those who have this particular Lily for sale would do well to mention it in their advertising. Will not some of our readers tell us something about the culture of the Madonna Lily? The Editor.

Iris Borer.

What can you tell us about the Iris borer? We find it most plentiful here, (Southern Ohio), first in the stem and then it eats down into the bulb or rhizome. How are the eggs laid and what is the end of the worm after it eats the root? Does it die or lay eggs or go on to another plant ? I am terrified over the amount of these detestable beasts. Let me know more about them. Can it be possible this is the corn borer ?

Mrs. Samuel H. Taft.

Please note what Secretary Sturtevant says in the American Iris Society Department this month. The corn borer and Iris borer are separate and distinct.– Ed.

CLASSIFIED ADVERTISING.

Five lines (about 40 words) $1.50 per insertion. Additional lines 20c. each.

GLADIOLI

Arvada, Colorado, 8-16-1920.
(Near Denver.)

Madison Cooper,
Calcium, N. Y.,

Dear Sir—

I used The Flower Grower to announce what Gladiolus stock I had to spare - several years ago. The repeat orders from that add have kept me sold out ever since. I will send you copy for add this fall as soon as I get them dug so I know what I have for sale of the varieties I am growing since my last add.

Cordially yours,
E. M. Hoyt.

FOR SALE—Booking fall orders for Gladiolus Bulbs now. Peace, Pendleton, Crackerjack, Intensity, Herada, Halley, Loveliness, Faust, 1910 Rose, Mary Fennell, Niagara, Schwaben, War and many others. Also fine mixtures. Write for quotations on all sizes. Gladiolus Bill, Clyde, Ohio.

BARGAINS for early buyers. To induce early buying, which eliminates much of the hurly-burly of the busy season, the following attractive prices are quoted—good until October fifth only: America, Halley, King, 35 cents per dozen. Peace, Panama, Niagara, 60 cents per dozen. Postage paid. Gladwood Gardens, Copemish, Mich.

FOR SALE—Surplus Gladiolus bulbs from the fine varieties which won the Kunderd gold medal and various other prizes at the last American show.
Mrs. M. B. Hawks, Elmwood Terrace,
Bennington, Vt.

"SAY IT WITH FLOWERS?"—Certainly, but let the flowers be Gladioli. I ship anywhere, up to 4th zone, large box postpaid, $1.25. Bulbs—wholesale—retail—in season. Choice new kinds.
C. I. Hunt, Nunda, N.Y.

EAST HARTFORD GLADIOLUS CO.—We will book orders for fall delivery, 1920 or spring 1921, by the dozen or the thousand. E. M. Smith, Pres. and Mgr., No. 65 Olmsted St., East Hartford, Conn.

IRISES

5000 Pallida Dalmatica (true to name.) 2000 Rheine Nixe, also choice lot of best named varieties of Iris for sale.
F. Wentink, Salisbury Mills, N.Y.

SIBERIAN IRISES—Blue Siberian and White Siberian. Fine for massing in borders. Grow in any soil. Excellent for cut flowers, $1.75 per dozen ; $8 a hundred. Mrs. W. E. Clark, Sunnymede, Sharon, Mass.

OUR Sept. Iris Offer We have a plot of ground that must be cleared of Iris this fall and I will make the astounding offer of $3 a hundred by express for these Irises. In mixture only, but including at least ten of Pallida. Ward, Plantsman, Hillsdale, Michigan.

MISCELLANEOUS

NARCISSUS or Jonquil bulbs, bedding size, fine to multiply, 30 for $1, mailed postpaid, cash with order. Varieties are Sir Watkins and Emperor. I want to buy Lily Candidum (Madonna Lily) and Japanese Lily bulbs. Hugh C. Schmitt, Evansville, Ind.

DARWIN TULIPS—Special Planting stock—Bulbs average about half regular size, or a little less. Same as I plant. Some will bloom first season. All should bloom the second, and for years afterwards. Long's Special Mixture, 100 bulbs, $2 ; 300 for $5 prepaid. Not listed in my catalogue. Offered only in The Flower Grower.
J. D. Long, Boulder, Colorado.

SPECIAL Perennial Plant Offer—30 choice plants, at least five kinds, my selection, prepaid for $1.75. Ward, Plantsman, Hillsdale, Mich.

THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

Vol. VII
Number 10

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1920

FOR BOTH AMATEUR AND PROFESSIONAL GROWERS OF THE GLADIOLUS, DAHLIA, IRIS, ETC.
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Scientific Plant Names Best.

[*Written expressly for The Flower Grower.*]

BY WILLARD N. CLUTE.

A GOOD DEAL has been said and written in favor of the trivial, common, English, or vernacular names of plants. Those who consider themselves just good plain citizens regard it as in some way a surrender of their common sense to use names in good standing with botanists. The scientific names are pretty generally regarded as savoring of the "highbrow" and their use seems to imply a desire to show off. When it comes to actually discussing plants, however, we discover that the aversion to the use of the scientific or technical names is more apparent than real. Everybody uses them. It is only when a name new to the hearer is introduced that a show is made of preferring the vernacular names.

To realize how very general is the use of technical names even among the ordinary gardening public we have only to note how many all of us use to the exclusion of well known common ones. The list includes Aster, Ageratum, Aspidistra, Azalea, Aralia, Asparagus, Arabis, Anemone, Alyssum, Begonia, Boltonia, Crocus, Coreopsis, Cactus, Cosmos, Catalpa, Cyclamen, Cineraria, Coleus, Cassia, Chrysanthemum, Calla, Canna, Calendula, Clematis, Caladium, Dahlia, Deutzia, Dracena, Euphorbia, Funkia, Fuchsia, Gladiolus, Gloxinia, Geranium, Gypsophila, Hepatica, Hydrangea, Hibiscus, Iris, Lobelia, Magnolia, Nasturtium, Nicotiana, Portulaca, Petunia, Phlox, Rudbeckia, Rhododendron, Spiraea, Scabiosa, Salvia, Trillium, Verbena, Yucca and Zinnia; to say nothing of an immense number of others such as Delphinium, Calycanthus, Narcissus, Anterrhinum, Hemerocallis, Dianthus, Syringa, Hypericum, Ailanthus, Lonicera, Sedum, and Aquilegia; where the common and scientific names run neck and neck, as it were, for popularity.

BLUE IRIS—*SIBERICA.*

[For description see page 162.]

Then there are a large number of others in which the technical and common names are but two forms of the same word as Violet (*Viola*), Aconite (*Aconitum*), Rose (*Rosa*), Lily (*Lilium*), Heliotrope (Heliotropium), Lavender (*Lavendula*), Lupine (*Lupinus*), Tulip (*Tulipa*), Tamarisk (*Tamarix*), Gentian (*Gentiana*), Hyacinth (*Hyacinthus*), Peony (*Paeonia*), Pine (*Pinus*,) Juniper (*Juniperus*), and Thyme (*Thymus*).

Time and the catalogue maker are fast making the vernacular names unfashionable. It may be added that they deserve to become so for they always possess a certain degree of uncertainty. One cannot determine exactly what species is meant when such names are used because one common name may be referred to more than one species. In general, too, the common names are like the generic names and indicate a group of plants instead of individual species. To be sure there are a number of technical terms so long as to be a bit unwieldy like Bossingaultia baselloides, Dimorphotheca auriantiaca, Mesembrianthemum crystallinum, Caryopteris mastacantha, and Chrysanthemum leucanthemum, and when it comes to Kraschenínnikowia maximowicziana even the botanist is willing to admit there may be some virtue in the vernacular names. However, so long as there is serious disagreement as to the correct pronunciation of Arbutus, Gladiolus, and Anemone, we may hesitate to subsitute the common names for the more accurate technical ones. I have named but a few that are now in common use. A further investigation of the subject only serves to multiply instances and to justify the contention that scientific names are best.

The American Gladiolus Society.

Last month we found it impossible to print names of winners in the noncommerical classes at the Boston flower show, and we are, therefore, appending them herewith:

FOR NON-COMMERCIAL GROWERS.

No. 51—Best collection 10 named varieties, 3 spikes each vase. First prize, $10; 2nd prize, $5. 1st won by Madison Cooper; 2nd won by S. Irving Moody.

No. 52—Best collection 5 named varieties, 3 spikes each vase. First prize, $5; 2nd prize, $3. 1st won by A. L. Stephen.

No. 53—Best collection 10 named varieties, 1 spike each vase. First prize, $7.50; 2nd prize, $4. 1st won by A. L. Stephen; 2nd won by Madison Cooper.

No. 54—Best collection 5 named varieties, 1 spike each vase. First, $4; 2nd, $2.50. 1st won by Joseph Cony; 2nd won by S. Irvin Moody.

No. 55—Six spikes, White, one variety named. First prize, $5; 2nd prize, $2.50. 1st won by Madison Cooper; 2nd won by Herman T. Wheeler.

No. 56—Six spikes, Yellow, one variety named. First prize, $5; 2nd prize, $2.50. 1st won by Madison Cooper; 2nd won by Peter Robertson.

No. 57—Six spikes, Pink or Blush, one variety named. First prize, $5; 2nd prize, $2.00. 1st won by Mrs. Geo. M. Hawks; 2nd won by Peter Robertson.

No. 58—Six spikes, Crimson or Red, one variety named. First prize, $5; 2nd prize, $2.50. 1st won by Peter Robertson; 2nd won by Mrs. G. M. Hawks.

No. 59—Six spikes, Blue, Purple or Lavender, one variety named. First prize, $5; 2nd prize, $2.50. 1st won by A. L. Stephen; 2nd won by Mrs. G. M. Hawks.

No. 60—Six spikes any other color, one variety named. First prize, $5; 2nd prize, $2.50. 1st won by Peter Robertson; 2nd won by Mrs. H. M. Walker.

No. 61—Three spikes, White, one variety named First prize $3; 2nd prize, $2. 1st won by A. L. Stephen; 2nd won by Joseph Cony.

No. 62—Three spikes, Yellow, one variety named. First prize, $3; 2nd prize, $2. 1st won by A. L. Stephen; 2nd won by Madison Cooper.

No. 63—Three spikes, Pink or Blush, one variety named. First prize, $3; 2nd prize, $2. 1st won by A. L. Stephen; 2nd won by Mrs. G. M. Hawks.

No. 64—Three spikes, Crimson or Red, one variety named. First prize, $3; 2nd prize, $2. 1st won by A. L. Stephen; 2nd won by Mrs. G. M. Hawks.

No. 65—Three spikes, Blue, Purple or Lavender, one variety named. First prize, $3; 2nd prize, $2. 1st won by A. L. Stephen; 2nd won by Mrs. G. M. Hawks.

No. 66—Three spikes, any other color, one variety named. First prize, $3; 2nd prize, $2. 1st won by A. L. Stephen; 2nd won by Madison Cooper.

No. 68—Best vase 10 spikes *Primulinus Hybrids*, Orange. First prize, $5; second prize, $3. 1st won by C. F. Fairbanks; 2nd won by Madison Cooper.

No. 69—Best vase 10 spikes *Primulinus Hybrids*, Yellow. First prize, $5; second prize, $3. 1st won by C. F. Fairbanks; 2nd won by Madison Cooper.

No. 70—Best vase 10 spikes *Primulinus Hybrids*, any other color. First prize, $5; second prize, $3. 1st won by A. L. Stephen; 2nd won by Madison Cooper.

Arthur A. Kirchhoff, Pembroke, N. Y.

No. 71—Best 6 spikes *General Pershing*. First prize, cut-glass vase, value $10; second prize, $5 cash. 1st won by Madison Cooper.

Henry F. Michell Co., Philadelphia, Penna.

No. 76—Largest and best display. First prize, Michell Silver Medal; second prize, Michell Bronze Medal. 1st won by Dr. F. E. Bennett, 2nd won by Madison Cooper.

Tait Bros. Company, Brunswick, Ga.

No. 77—Best 5 spikes *Anna Eberius*. First prize, $5; second prize, $3. 1st won by Madison Cooper.

C. I. Hunt, Nunda, N. Y.

No. 79—Best six vases, six varieties, one spike each. First prize, $3; second prize, $2. 1st won by A. L. Stephen; 2nd won by Mrs. M. B. Hawks.

Charles F. Fairbanks, Boston, Mass.

No. 80—Best vase 10 spikes, Pink——one variety. First prize, $6; 2nd prize, $2.50. 1st won by Madison Cooper; 2nd won by C. F. Fairbanks.

No. 81—Best vase 10 spikes, Red and Crimson, one variety. First prize $6; 2nd prize, $2.50. 1st won by C. F. Fairbanks; 2nd won by Mrs. M. B. Hawks.

No. 82—Best vase 10 spikes, Yellow, one variety. First prize, $6; 2nd prize, $2.50. 1st won by C. F. Fairbanks; 2nd won by Madison Cooper.

No. 83—Best vase 10 spikes, White, one variety. First prize, $6; 2nd prize, $2.50. 1st won by C. F. Fairbanks; 2nd won by Madison Cooper.

No. 84—Best vase 10 spikes, Blue, Purple or Lavender, one variety, $6; 2nd prize, $2.50. 1st won by C. F. Fairbanks; 2nd won by Mrs. M. B. Hawks.

No. 85—Best 2 vases 10 spikes, any other color. First prize, $6; 2nd prize, $2.50. 1st won by Mrs. H. M. Walker; 2nd won by Madison Cooper.

H. E. Meader, Dover, N. H.

No. 87—Best three spikes *Lilywhite*. First prize, $3; 2nd prize, $2. 1st won by Mrs. M. B. Hawks; 2nd won by Madison Cooper.

The R. E. Huntington Co., Mentor, Ohio.

No. 88—Best spike *Purple Glory*. First prize, $2.50; 2nd prize, $1.50; 3rd prize, $1. 1st won by A. L. Stephen.

No. 89—Best 2 spikes, *White Glory*. First prize, $2.50; 2nd prize, $1.50; 3rd prize, $1. 1st won by A. L. Stephen; 2nd won by Mrs. M. B. Hawks.

No. 90—Best 3 spikes *Orange Glory*. First prize, $2.50; 2nd prize, $1.50; 3rd prize, $1. 1st won by Mrs. M. B. Hawks.

Garden Magazine, Garden City, N. Y.

No. 91—The Garden Magazine Achievement Medal for the finest quality of bloom in the Non-Commercial Classes. Exhibitors showing less than 25 spikes not to be considered. 1st won by A. L. Stephen.

The Seattle Horticultural Association.

A few enthusiastic horticulturalists, florists, seedsmen, and flower lovers have organized under the above title to promote floriculture especially, and a constitution and by-laws have been adopted. One or more flower shows are planned for next season, and a fine display of flowers is looked for. Those interested are cordially invited to join the association and for this purpose membership blanks will be forwarded by the temporary secretary, J. P. Woodward, No. 80 Pike St., Seattle, Wash.

Mansfield Gladiolus Association.

The second annual exhibition of the Mansfield Gladiolus Association was held in lower Town Hall, Friday and Saturday, Aug. 20th and 21st.

In connection with the Gladiolus show were Diener's ruffled monster Petunias exhibited by Mrs. John H. Howe. These Petunias measure from four inches to five inches across the blossoms.

Asters by James Latham.

Dahlias by Samuel Fredericks, James Latham and John H. Howe.

Next year the association intends to issue catalogues and have a much larger show.

F. O. Shepardson, of Mansfield, had the largest display, his exhibit taking one side of the hall. Displays were also made by W. S. Harris and Dr. Latham.

There were sixteen exhibitors, one coming from out of the town.

After the close of the exhibition the flowers were auctioned off and the proceeds, $25.06 were donated to the District Nurse Association.

Robert Walker, Secretary, New England Gladiolus Association, captured 14 first prizes at the show.

John Zeestraten, of West Bridgewater, Vice-Prest. of the New England Gladiolus Association, showed five new seedlings.

The annual meeting was held at 8:30 P. M., Friday evening, Aug. 20, with the President, F. O. Shepardson, presiding. Secretary's and Treasurer's reports were read and officers were elected. It was voted not to change the officers for the next year. They are as follows:

Prest.—F. O. Shepardson, Mansfield.
Vice Prest.—John Zeestraten, West Bridgewater.
Secretary—Miss Faye Howe, Mansfield.
Treas.—F. R. Sawyer, Mansfield.

FAYE HOWE, Sec'y.

The St. Thomas Horticultural Society.

The St. Thomas Horticultural Society made a large display of Gladioli at the Canadian National Exhibition. The display though not entered in any competition but for educational and co-operation was awarded 1st prize, a diploma and a cash award. Some 1200 bloom were displayed in probably 250 varieties, chiefly Kunderd's, Decorah Gardens', Mrs. Austin's, Diener's and Holland stock. The arrangement was perfect as regards color scheme. The exhibit according to critics was the finest ever staged at the exhibition and the Fair Directors were unanimous in requesting that the St. Thomas Society come again in 1921.

Complimentary exhibits of Gladioli were sent to the Owen Sound and the Durham Horticultural Societies for display at their fall flower and vegetable shows.

The City Council, the Chamber of Commerce and the Board of Education of St. Thomas at their regular meetings on Sept. 8th, unanimously decided to extend a hearty invitation to the American Gladiolus Society and the Ontario Peony Society to meet in St. Thomas in 1921. The Local Council of Women, with whom all women's organizations in the city are affiliated, at a meeting on Sept. 6th, decided on a similar course and promised their fullest support to the Local Society.

A $1000 tag day will be held on Sept. 25th, the proceeds to go to the Horticultural Society in aid of their work.

So great has the interest become in growing the better varieties of Gladioli that window displays of many varieties are being held daily. The Wing Seed Co. kindly sent a splendid contribution of bloom. Campbell Bros. also sent Groff's leading varieties.

Glad fanciers and horticulturists generally whom the writer met at the Canadian National Exhibition were delighted at the prospect of the American Gladiolus Society meeting in Canada in 1921. Several signified their intention of growing Gladioli especially for this meeting.

F. E. BENNETT, Prest.

There seems to be little doubt but what the A. G. S. will show in St. Thomas, Ontario, in 1921, as per above invitation.—(Editor.)

Tulips.

As the time draws near for planting bulbs for Spring bloom, it may not be out of season to send this picture to remind one of the joys of Tulip-time.

This tiny four-year-old girl has just come down the garden path and stopped to look at the baskets of Tulips. The picture suggested these lines of Mrs. Browning's:

> "And Tulips, children love to stretch
> Their fingers, down, to feel in each
> Its beauty's secret nearer."

Mrs. Homan's Tulips.

The two baskets contained forty-eight Mr. Farncombe Sanders' Darwin Tulips and were cut for use for Memorial Day.

Too much cannot be said in praise of the Tulip as a cut flower. It keeps in perfect condition for days and combines beautifully with many other flowers. A basket of the pink Darwin *Clara Butt* arranged with Persian Lilacs was much admired, and wood Ferns are always effectively used in arranging Tulips either in vases or baskets.

Let us all plant Tulips and lots of them this fall and reap a great harvest of joy next Spring.

Mary Burnham Homans.

(Iowa.)

Hardiness of the Gladiolus.

In the good days before the war hybrid Gladioli were sedulously lifted and stored after flowering, but that practice, and many others, came to an end when the drums sounded the point of war. The bulbs, therefore (or should I call them corms?), have remained in the ground through the two severest winters in the last quarter of a century, yet those that have escaped mice and voles have sent up as fine spikes as ever they did when they were deliberately coddled. This is somewhat of a surprise, seeing that last winter we twice had over twenty degrees of frost. They did not even receive a top dressing to protect them, to which they are well entitled, for Gladioli are shallow-rooting things. Of the species of Gladiolus, G. tristis succumbed to cold.—H. Maxwell in *The Garden*, (English).

The Glad Philosopher's Musings.

If you love fragrant Peonies,—and who does not?—be sure that your collection includes *Madame de Verneville* for an early midseason white. Like *Edulis Superba* and *La Perle, Madame de Verneville* has the true Rose fragrance that is so delightful, and in addition to its being a sure and free bloomer, it is inexpensive in price.

The two most fragrant Irises I know of are *Florentina Alba*, creamy white, and *Kochii*, a purple self so dark that when the buds are unfolding they appear to be black. These two old Irises yet stand without a peer as companions either in garden ornamentation or as cut flowers in the vase. Both are in bloom at the same time,—early,—being about the first of the taller varieties to bloom; both have extremely large flowers of good substance, and a bouquet of either variety, or of both mixed—they harmonize perfectly together—will fill a room with their rich and heavy perfume.

Someone has made the statement that *Kochii* and *Crimson King* are synonymous. That is a mistake, for although these Irises are nearly similar in color and habit, *Crimson King* is somewhat redder than *Kochii* and seems to bloom a very little later; it also appears to be slightly taller, a more vigorous grower and more rapid to make increase. Since *Kochii* is a variety over which there is considerable confusion, I bought stock of it from several reliable sources; and I obtained my *Crimson King* direct from Mrs. Dean, who, I believe, originated it. *Crimson King*, like *Archevique*, gives an occasional bloom in late autumn, but *Kochii* has never done this for me.

I find that Phlox makes the ideal filler for the Peony beds, and for a most pleasing effect whites and white with a crimson eye varieties had better be used; in any event it is well to avoid the purples and magentas. *Miss Lingard*, which comes into bloom early,—shortly after the Peonies are done, and *Independence*, a fine white with large florets and shapely panicles, blooming later, are probably two of the best whites for the purpose and are about the right height. *Mrs. Jenkins*, another fine white, noted for its extremely long period of bloom, is taller growing and more adapted for mass planting elsewhere. *Henry Murger* and *Bridesmaid* are two beautiful varieties, each having large florets of white with a crimson eye, and are most useful for the purpose. *George A. Strohlein* is an attractive light scarlet that shows up well amongst the Peony bushes.

The early blooming Phloxes will give a good second season of bloom if the old flower heads are cut off before seed has begun to form. Coming in so many different shades of color and in such variable heights, the Phlox is one of our most valuable garden flowers. It is of the easiest culture, is perfectly hardy and it has an unusually long blooming period. These virtues, together with the fact that its season is rather late in the year, when most of the garden favorities are through, makes the Phlox most valuable if not indispensable to those who wish to obtain continuance of bloom in the perennial garden.

The Glad Philosopher.

Cut Flowers for Easter.

Having had in the past to furnish a quantity of cut flowers and plants in bloom for Easter a few notes as to the various subjects employed to meet the demand may be of interest at the present moment.

Touching first of all on hardy shrubs that are easily forced, the following were those chiefly made use of, viz., Deutzia gracilis, Guelder Rose, Lilacs, Staphylea colchica, and Azalea mollis in variety. These were supplemented with Indian Azaleas, among which the double white varieties largely predominated. The hardy shrubs were potted in good time and stood on a bed of ashes, the only protection given being that accorded the pots, which were surrounded with litter as a protection against frost. After being exposed in this way to the elements the plants quickly responded when taken in to be forced, and, when Easter fell late, required but a slight amount of warmth to get them in flower. In addition to the foregoing a good batch of Arum Lilies was always held in reserve, and the same with regard to Lilium Harrisi. Eupatorium vernale was grown in good quantity for the purpose. Although not of such great value for cutting as many of the subjects already named, they were invaluable for the furnishing of rooms as well as the show-house, as the Heliotrope-like fragrance exhaled by the flowers is much appreciated.

A good number of Marguerites was also timed to come into bloom at the season specified, among them being a few old plants held over from the previous year. East Lothian Stocks and the Wallflower-leaved perpetual-flowering variety All the Year Round played an important part, the plants being raised from seed sown in autumn. Then there were Cinerarias of both the stellata and polyantha varieties, and Primula malacoides. Early-flowering Pelargoniums of varieties such as *Kingston Beauty* and *Princess Alice*, the double white *Belle de Jour, Mme. Thibaut*, and *Triomphe de St. Maud* were all invaluable, and the same with regard to Cyclamens, among which the giant white-flowered type figured very conspicuously. A few good plants of Schizanthus Wisetonensis were usually in flower at this time, and the same with respect to the taller and large-flowered hybrids. A good number of double-flowered Tulips, particularly white ones, was retarded for the purpose, and of Polyanthus Narcissus also. Then there were Freesias, Lily of the Valley, Spiræa japonica, and S. astilboides, and, when Easter fell early, both single and double Hyacinths. Narcissus poeticus ornatus always proved useful, and in some seasons N. bicolor Empress could be held over to enhance the display.

For the dinner table Daffodils in variety, Tulips, Cyclamens, Pelargoniums, Azaleas, and Schizanthus were the flowers chiefly employed, one kind of bloom only being used on each occasion.—*Gardening Illustrated.*

Owing to crowded condition of our columns this month some of our regular departments are again necessarily omitted, but will do better next month.

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> *"He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers."*—ZOROASTER.

"Toil."

When we were many years younger than we are now, we remember reading a book by the great Russian, Count Leo Tolstoy. It was called "Toil," and it presented numerous reasons why every man, (in fact we are not sure but what it said every person of work age) should perform at least forty days' labor in each year in contact with the soil. The book made a strong impression on our youthful imagination at the time, but we could not arouse interest nor even sympathy on the part of anyone we talked with about it. At that time, and it is even worse now, people would not believe that manual labor was good for them, and there were few indeed, but who would in every fair and reasonable way, try to avoid it. Labor in contact with the soil is the best and most ennobling of any, but any honest labor in any walk of life is desirable and necessary.

The theme of the great Russian is doubtless correct in principle, but we do not at this time remember why a period of forty days was set down as being a suitable time to labor in contact with the soil, but it seems altogether reasonable. We speak from long distance memory entirely, but it was stated that no matter what other employment any person had, at least forty days per year should be utilized in connection with agriculture. After the long lapse of years since the book was read we are still inclined to agree with Tolstoy that forty days are none too many to labor in close contact with Mother Earth. Surely those who are doing the so-called higher work of the world would be greatly benefited by such contact and they would better appreciate the motives, aspirations, and the tribulations of those who labor throughout the year as a matter of necessity and not from choice.

We would not cite Tolstoy's utopian suggestion as the great remedy for all the present ills of humanity, but surely his idea is a grand one, and it could be adopted by any man no matter how high and great his life work, with distinct advantage to himself and to the world at large.

Necessarily every man must figure out his own salvation, and to his own satisfaction. It cannot be done for him, but we are thoroughly convinced that toil, with proper appreciation of what it means, is a remedy for many ills of the human family. It is, in fact, a part of the great education which we advocate as the important remedy for present unrest and uncertainty.

MADISON COOPER.

Cataloguing Irises.

A long time ago, somebody originated the practice of cataloguing Irises according to the "section" to which they belong and Peonies according to the type or the introducer, and subsequent catalogue makers have followed this exceedingly bad example to the confusion and exasperation of all who must refer to printed lists. As a particularly bad illustration take an Iris catalogue that I have recently received. Here are listed more than three hundred varieties arranged in no less than sixteen separate divisions. Suppose I read in THE FLOWER GROWER of some desirable form and wish to look it up in the catalogue with the idea of investing in a few specimens. I start with the first of those sixteen lists but before I have gotten half way through the catalogue I do not care particularly whether I have that variety or not. If the "section" to which an Iris belongs is of any importance to the majority of the flower growing public, which it is not, why not list all the varieties alphabetically and add after the name of each the division in which it belongs? The Iris dealer who wishes particularly to please his customers will include a second list in his catalogue in which the varieties are listed according to color with perhaps the height and time of blooming added. Then he may expect a greater return for the expensive catalogues he sends out.

WILLARD N. CLUTE.

Coal Ashes for Growing Vegetation.

While the experiment stations and scientific writers are all agreed that coal ashes have little or no fertilizing value, it has been the observation of many different people that coal ashes have an effect on growing vegetation which is surely beneficial. It has been found that Dahlias growing in old ash heaps have behaved well where, at the same time, under ordinary garden culture, they were a complete failure. The same has been noticed of Asters and other flowers which under cultivation were at a standstill or died from blight diseases, yet on a dumping ground for coal ashes they were free from disease.

Sifted coal ashes, (or unsifted for that matter, if one wants to put up with the clinkers,) are surely beneficial to many soils and plants growing therein, and it has been shown by practical experience that certain plant diseases are kept down or eradicated by their use.

We are very much inclined to believe that those who dump their coal ashes in a low spot in the lot for filling purposes or hire them hauled away, are making a great mistake in doing so. We regularly distribute our coal ashes thinly scattered, clinkers and all, on the garden. The clinkers are somewhat of a nuisance, but as a part of our method of cultivation is a liberal use of the garden rake, we gradually work them out in this way.

Too bad the experiment stations and horticultural writers generally cannot find out something more definite about coal ashes. Practical experience teaches that they are beneficial and if writers on the subject of fertilizers could tell us in what way they operate we might be able to use them more intelligently.

MADISON COOPER.

Shippers of perishable flower stocks should use parcel post in warm weather instead of express. Express has been badly congested at times during the past summer. The mails have also come in for their share of delays, but parcel post is by far the most reliable.

Odds and Ends In the Garden.

"Show me your garden, provided it be your own, and I will tell you what you are like."
—Alfred Austin.

A true but not, I think, a trite saying. There are gardens of cold perfection stamped with the seal of the landscape architect, cosmopolitan gardens derived from the memories of a Cook tourist, overgrown gardens, relics of a brief enthusiasm and far too many others, but of them all the most hopeless is that which has been relegated to the care of the man-of-all-work who keeps each plant that he knows in its place, vanquishes every weed and chance seedling and in complete absence of imagination seems to regard the bare dust-brown earth as the chief beauty of a garden. Is it not the reflection of the owner's personality that makes a garden worthwhile? Indeed I think it is, and to one who enjoys his fellow man, his garden, however it may be developed, is of interest.

Perhaps it is a mere cottage yard, the brick path edged with clove pinks, clumps of Day Lilies, of Flower de Luce or "Pinies" rising through lower growths, bushy Lilacs or Mock Orange, and yet neat withal, the weeds kept out, the seed pods picked. Surely this is the abode of gentile poverty, of age, and shy retirement. More fortunate has been the owner of another old time garden, a garden with gnarled fruit trees, with time worn edgings of box, with gooseberries and currants among thrifty masses of old time favorites and well placed drifts of their kindred in newer colorings. Success in a worldly way alone has wrought the change, the character is the same. Whether it is the blazing bit of color by some lonely flag station, the blatant garden of a *nouveau riche* or the peaceful, walled garth of a long established family we may draw our own conclusions, they are revelations of character to those who pass with a seeing eye.

As beginners in the art of gardening we may err largely. A mere love of flowers may urge us to root out the sod and plant seed; curiously enough it may take years for us to realize that thorough preparation of the ground and much discriminating care is required for success. The vegetable garden may have been our first love, just chance have added flowers which with similar care were such a lure that slowly the vegetables gave way completely. Then it is that one must watch out and not create a burden. Carried to an extreme even a garden becomes onerous and one should so plan that but half the available time be spent in prosaic routine, the balance in really living in it, dreaming of the present and the future. Such restraint I do not possess. It is fascinating to plan and plant new beds, carry them to completion, but to weed and train, cut-back and replace, that is a bugbear. And in the final analysis the upkeep of the garden is a source of even greater study than its inception. It is in this respect that we Americans are so often failures.

By upkeep I do not refer wholly to the mere manual labor of keeping the paths trim, the edgings clipt and the weeds down but rather to that care which gives every plant its opportunity and yet allows few glimpses of bare earth. And with it all, the result must be sightly, fresh and colorful. In early spring we may nip out a large share of the late Phlox shoots to throw the strength into a few vigorous stems, we may replant the hardy Asters to give space for a fully developed panicle, raking is impossible among the tender sprouts, careless hoeing where the buds will burst through almost a crime so numerous may be the fatalities. I am tempted to give a dissertation on when to hoe and when not to hoe in the perennial garden, but will be satisfied with saying never hoe after the first overhauling for then you will find baby seedlings about the mother plants and if they be Peonies or Irises, who can tell what beauties they may not unfold?

As the Peonies leaf out they will need supports and I have found the wire tomato supports just the thing, painted green, as are all my garden aids, they are hardly noticeable. By this time the early flowers are past and seed stalks of Arabis, Tulip petals and so forth are becoming overconspicuous. The dying leaves of the bulbs unfortunately cannot be removed with benefit until yellow, but often they may be camouflaged beneath some neighboring growth. As the season advances the spiry Larkspurs will need to be tied with green raffia, each spike to its green, slender stake, for over an enclosing support the wind breaks the stalks and the support itself may be unsightly. I cannot abide the apron-string effect of raffia alone, one sees it so often on clumps of *Boltonia, Aster Novae Angliae,* or even Chrysanthemums. As the Baby's Breath and Michaelmas Daisies develop I put in forked brush that is soon hidden by the sprays of bloom, sometimes a long Rose trailer from the nearby arch is brought along to cover some bare bit of ground where Gladioli have been planted or, at the proper time, some of the tall growers are pinned down so that their sun-seeking flowering branchlets may fill the space.

All this, however, is superficial, it is the spring top-dressing, the annual wise replanting and division of crowded clumps, the judicious watering, and special fertilization that are necessary culturally to keep even a well-prepared garden in good tilth. And the bugs! Whether it is the cut-worm which must be scratched for, about a favorite Columbine or Phlox; a slug who must be tempted by a toothsome mash and hunted by the light of a lantern; a Rose-bug to be plucked, or a blight to be sprayed, such troubles are ubiquitous. Fortunately the weeds each year after the first become less troublesome (at least if you do not use manure), the flowers take full possession and there is time to transplant the seedlings, divide the stock and start new beds beyond. However ambitious your ideas may be, start with a small plot of ground and then as your knowledge and stock of plants increase together, carry on, but whatever you do, plan to hold some of your garden time for a quiet appreciation of its beauties, for memories of past trials and dreams of future possibilities. That is our bit of paradise.

R. S. BARRE.

Growing Ivy.

The Ivy as a genus is both useful and beautiful. The pruning or clipping of the Ivy is an essential thing to its well-being as well as to its beauty. There is a sort that will do without much of this, viz., the small leafed Helix, or common English Ivy, a beautiful, close-growing, cut-leaved variety; but the Irish Ivy, a kind commonly met with, requires an annual clipping if grown on houses or walls. Knife-pruning is necessary in cases where the Ivy is grown as an ornament on arbors, old trees, fences, vases, etc., but where on walls or buildings, it should be annually clipped close, the month of June being the proper time to do it, when there will be time for it to make new foliage before the winter. If not pruned annually, they are apt to run into growth at the extremities, and get barren below if left unclipped.

During October or November take good-sized cuttings, at least six inches in length, regardless of the number of joints, and insert five or six cuttings into each pot, using a mixture of soil and sand in equal proportions. The best method of performing the above operation is to fill the pots half full of soil, then insert the cuttings to the depth of one inch, just deep enough to make them stand upright, and when root action has taken place more soil may be added until the pot be filled with soil. It is best to have the soil of a rather dry texture, so that it will settle firmly between the cuttings by tapping the pot on the bench two or three times. As fast as the pots are filled with cuttings, they should be put into the propagating house and receive a good watering. The cuttings must not be allowed to wilt during any part of their propagation, as this is an important item to their well-being. While in the propagating house they must be kept sprayed and not subjected to strong draughts until root action has taken place. As soon as the cuttings have rooted they will begin to grow very freely, and if they are not neglected and are supplied with water when they require it, they will make fine, bushy plants by the following spring and in proper condition for using in boxes, etc. When large plants are wanted, such as pyramids, baskets, etc., it is only necessary to take these same plants in the spring, cut them back pretty well and plant them out in the open ground, where by the following autumn they will have grown into extra strong clumps with six or more runners to each clump. They should then be taken up and crowded into six or seven-inch pots and tied up to strong stakes, and as soon as the plants have established themselves in this size pot, they are ready to be worked into any shape desired. Should the plants not grow large enough the first year for any particular purpose, they should be given another season's growth in the open ground, which will result in extra heavy growth. Particular stress should be paid to watering the plants with liquid manure, so as to encourage a quick growth. Ivy will stand any amount of frost, provided it is not given a southern exposure. Too much praise cannot be given this wonderful creeper as an object of beauty and utility. It can be used in every conceivable manner in any landscape, proving itself perfectly hardy.
—*Gardeners' Chronicle.*

WAYSIDE RAMBLINGS

[*Written expressly for The Flower Grower.*]

DARWIN TULIPS "COMING BLIND."

A correspondent inquires what is the matter with Darwin Tulips that "come blind." The correspondent should have specified what is meant by "come blind." Is it merely failure to bloom? Mere failure to bloom would probably be due to the bulbs having divided into young bulbs too small to bloom. A little bulb sticks up a single leaf with no blossom stem. Where bulbs remain several years, they get too numerous and crowded to attain size sufficient to bloom. That is one reason for frequent moving of the bulbs. If Tulips must remain for years without moving, the blossom should be allowed every year to stay on the plant until the seedpod has formed. There will then be but little division of the bulb, and it will not need moving so soon as when the blossoms are picked as soon as they open.

Perhaps your correspondent, in picking the flowers, pulls up the whole stem out of the ground, or cuts it off at the top of the ground. If so, the bulbs become so badly starved they cannot form buds for the following year. In cutting, two leaves should always be left on the plant to mature the bulb.

Sometimes moles tunnel under the bulbs and cut off the feeding roots, so that the bulbs starve, or tear through the large bulb, so that it dies, and only little ones that escape are left to put up leaves.

Tulips are sometimes planted in a soil too loose and porous. Such a soil should be thoroughly tamped before the bulbs are planted, and planting should be deeper than in a heavier soil. Otherwise the base of the bulb is left too open to the air, and the soil will be too loose for the little rootlets to push into it and take hold of it, or too dry, or will dry out after the bulbs are started, or will freeze dry in the winter. Under such circumstances the main bulb will die, and sometimes the part of it that would become a little side bulb will remain alive, and put up a single leaf. The soil for planting Tulips should be well-drained, fine in texture, free of trash, litter, or manure, well settled by a rain or two after being worked up, or else well compacted by rolling or tamping, and firmed over the bulbs after planting. So long as a Tulip bulb has its roots running down into firm moist soil, freezing will not hurt it.

Strictly speaking, I think the term "come blind," should be used only when there is a flower-stalk, but no bud on it, or an aborted bud, or bud that has thick green leaves instead of colored petals. Imported bulbs sometimes put up a stalk with no bud. This is due to the bulbs getting overheated on shipboard by being placed too near the heating pipes or some other source of heat. Only a small proportion of a shipload would be so affected, and it is much less likely to occur now than before the cause of the trouble was known. Where the buds come defective or green, I do not know the cause, but suspect it to be due to the bulbs being overheated in the soil during summer. It is not a serious trouble nor is it a permanent character of the bulb. Some that I tagged one year gave perfectly good blooms the year following.

Sometimes a bud is diseased. As soon as it can be seen that a bud is abnormal, it should be picked off below the sickly part of the stem and burned. The disease that causes "firing" of the foliage is propagated by spores from diseased buds.

There is a disease that kills the bulbs, which can be detected by the turning red or purple of the plant, and its death before blooming. The spores of this disease are on the bulb and on the underground part of the stem. Such diseased plants should not be pulled up, as that gives the spores a chance to scatter.

B. C. Auten.

STORING GLADIOLUS CORMS IN SUGAR BAGS.

I have noticed some articles regarding Gladiolus bulbs in "sugar bags." May I give you my way? Having over one hundred named varieties and anxious to keep all separate, I label each bag at the bottom with a three inch copper wired label—name of variety plainly written. When bulbs are bought or dug, drop each in bag so named. When ready to set, have 15 inch labels for the bulbs in the ground, empty each bag and place tall label, then bunch the bags for each row, labeling row 1, 2, or 3, etc. Then when ready to dig in the fall, cut tops to three inches, drop bulb in labeled bag, the corms of each variety with the old bulb, tie up the tall stakes or labels, labeling them row 1, 2, or 3, etc., ready for spring. The bags of bulbs can be strung on large blanket safety pins, which will hold 12 to 15 bags, (after tying the tops of bags) and the bunch hung on nails driven in shed or store room or placed each day in the sunshine to cure.

In a few weeks can be looked over, topped and cleaned—dirt shook out—and bulbs replaced in bags for a winter's rest. A post in cellar driven full of stout nails makes an ideal place to hang the bunches of bags, all sizes of bags can be used—five pound sugar bags, up to twenty-five pound bags—or can be made of cheese cloth or doubled netting. I have found this ideal where so many varieties are to be kept separate, and there is no danger of mixing bulbs, and by bunching both labels (stakes) and bags when not used it is easy to get each lot by looking up number of row or bag, 1, 2, 3, etc.

Perhaps I have not made this very plain but I have proved it out with one hundred and fifty named varieties. Where two and three different plantings are made of each kind it takes that many more bags and tall labels, as each bunching of bags or labels goes by rows, 1, 2, 3, etc.

Mrs. G. W. Bain.

"TWELVE BEST" IRISES.

A number of people have asked me to recommend a dozen choice Bearded Irises with which to start a collection. I have suggested the following twelve varieties which may be of general interest, as each variety is distinct, has charm and may be purchased at reasonable cost.

When you have become acquainted with these, you will be quite willing to discard the older, inferior varieties you may have growing in your garden:

Pallida Dalmatica (*syn. Princess Beatrice,*) *Lohengrin, Queen Alexandra, Archeveque, Isoline, Prosper Laugier, Floorado, Monsignor, Rhein Nixe, Jeanne d' Arc, Iris King Loreley.*

Wm. S. Johnson.

BLACKHAWK GLADIOLUS.

Mr. Black sold this variety as *Gov. Hanly* and I bought a few of him. When they bloomed I saw that they were not *Gov. Hanly* and wrote him about it. The next spring he had me send him a few *Gov. Hanly*, and then he suggested three names, and I chose *Blackhawk.* Mr. Black acted fair in the matter for he called attention to it in his next catalogue. It is a Kunderd seedling.

Willis E. Fryer.

FLORA, A NEW YELLOW GLADIOLUS—OTHER VARIETIES.

I wonder who else has tried the new yellow Glad, *Flora.* A lot of this variety, imported under special permit for propagation, was sent me by one of the large firms to grow on for trial, as they were not allowed to sell it this year. They said they considered it THE best yellow—even better than *Golden Measure.* Not having had the temerity to invest in so high-priced and unproductive a variety as *Golden Measure,* I cannot compare them but *Flora* is certainly the best yellow I have seen. The flower is of good substance, fine round open form and without a blotch—a faint shading in the throat. The stem is erect and strong and the flowers well arranged. If it produces well or fairly, I think it a great acquisition. At the State Fair at Des Moines I took first for 12 best yellow with it and it is flowering finely still.

Titanic is grand this season and *Prince of Wales* has been a show, only, like *Pink Perfection,* it sprawled around under the weight of its bloom. *Titanic* and *Mrs. Watt* never do that. I am still undecided whether *Majestic* is going to supplant to any degree *Prince of Wales.* It seems more erect. I am just getting my first view of *Glory of Kennemerland,* a pink as big as *Princeps. Proserpine,* rose, and *Pride of Hillegom,* dazzling, persistent scarlet, were greatly wondered at in Des Moines, but with this season's excess of moisture they lopped over in the vases. *Mary Fennell* was shown in quantities for the first time here and attracted great attention as a most dainty sort. Among my Diener's mixed I find again one which seems to be an improvement on Mrs. Austin's *Bluvista* I shall watch with interest to see whether it holds its own.

Geo. S. Woodruff.

HARVESTING DARWIN TULIPS.

Your correspondent, in giving directions as to harvesting Darwin Tulips, says to let them cure several days in the sun. Don't do it. The sun should not be allowed to strike them at all more than the few minutes necessary to dig them and get them under shelter. Even the short space of one-half hour in clear sunshine on an excessively hot day can be their utter ruin.

B. C. Auten.

Words of Appreciation.

One of our California subscribers on receiving his first copy of The Flower Grower writes as follows:

"Received the first copy of The Flower Grower and I wish to say that I am very much pleased with the same. It carries with it that undefinable something which characterizes all that comes from the heart as well as the head—a product of the flower enthusiast.

"The Flower Grower is a genuine article and for the sake of all flower lovers I wish it a much wider circulation."

Prices for 1921.

Although labor costs have not decreased it would seem that "the peak" of prices has been reached, if not already passed; and those who are interested in making prices on flower stocks of various kinds should remember this and not advance prices except where clearly justified. We are pleased to note that flower growers are, in the main, entirely reasonable in this respect, and but few things have been advanced for the coming season, whereas many things have been reduced in price with the general average holding about steady.

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

The S. A. F. & O. H. Convention—About Gladioli.

ON THE first morning of the S. A. F. & O. H. Convention in Cleveland, a long line of florists stood in the lobby of the Hollenden—the headquarters of the society for the ensuing week—each awaiting his turn to register. And there I had a brief opportunity to study people, some of whom I was sure were business friends and with whose signatures I was acquainted, but whose faces were unfamiliar. In the interval I fell to matching faces with the signatures in my mind.

"Surely that large man with the brown eyes and pleasant smile must be the one who wrote us that treasured letter about one of our flowers, yet he looks most too young." Later I learned that he was both good and great but not the one pictured in my mind.

"That fierce-looking gentleman, with the hawk-eye, and business writ all over his face, and whose mustache fairly bristles blue pencils, certainly must be the editor of that Trade Paper that I feel I cannot do without." Again I was mistaken, the editor really being quite the reverse, and an exceptionally pleasing young man to meet.

"There's that young looking man of thirty-five or there-about, I hear them call him —— and some one told me that he married that pretty little girl that was in my Sunday school class years ago. She was a nice little thing, always knew her Golden Text. I'll inquire after her," but with a boyish smile he returned: "Impossible, my wife's past fifty and I am older than she."

I'm not young myself, but—well he certainly was nice about it. This incident flooded me with the light of revelation. Of course all florists look young. To be sure some of those young-faced men and women might be old but only in years, their chosen work of growing and working with flowers has kept their hearts young and it is reflected in their earnest youthful looking faces.

These great florists of the S. A. F. are truly the leaders of the nation as far as flowers are concerned and their meeting is really for consultation and consideration of its advancement for wherever flowers are used it is for betterment in the higher things of life, and it behooves all growers and lovers of flowers to give thought to the manner in which they may be helpers. We have been growing Gladioli over thirty years and when we became overstocked and I put my first little advertisement—just for pinmoney you know—in a trade paper, then in its infancy, there was only one other little advertisement to keep it company. Right then I realized the importance of publicity for flowers, but there was another need, that of organization, and yet another, that of teaching the value and use of flowers and that they hold a place where nothing else can be used in substitution. These needs are still with us and greater than ever for we have flowers that are being wasted by the million because the mind of the public has not been directed to the necessity of flowers and the various ways in which they may be used.

Last week I attended a funeral where there were auto loads of flowers, and when a woman in speaking of the deceased, remarked, "She was such a lover of flowers," I made the inquiry, "Did you ever give her any?" The reply was "No, but this is a lesson to me, to give while they live as well as when they are gone. If those friends had filled her home with flowers on her birthday or some other happy occasion when she was well and could have enjoyed them and brought much happiness. Very likely this might have happened more than once if the idea had ever been suggested. Of course none the less should they have sent them to the house of mourning expressing through them their love for her and cheering sympathy for her dear ones.

Now that the Gladiolus has become such a factor in the flower world, all growers should become more and more critical in their selection of seedlings. If you have a new one that attracts your attention, study it carefully remembering a few traits it must have to be worth growing, and as many better ones as possible. It is a great expense of time and money to grow and place a new variety on the market and it should be one that the purchaser who buys for trial, will find so distinctive that he will come back to buy again for use. I have a judge's score card before me that may be helpful in selecting your new varieties.

SCORE CARD.

For use in judging Gladioli. Prepared by direction of the Gladiolus Society of Ohio.

NOTE—The ideal or perfect Gladiolus combining all the qualities here enumerated, should score 100 points. Approximation to the ideal standard, which is all that can be looked for at this time, should be designated by the award of points ranging from 0 to the full total in each case, according to the excellences of the specimen under consideration.

1. SPIKE—20 Points—Long, 5; straight, 5; many blooms, 5; facing together, 5	20
2. FLOWER—25 Points—Large, 5; widely opened, 5; broad, round petals, 5; substance and texture, 5; beauty of bud 5	25
3. COLOR—20 Points—Attractive, 10; either clear self, or strikingly marked, 5; adapted to cut flower trade or florists' use, 5	20
4. FOLIAGE—15 Points—Dark, healthy green, 5; broad, 5; abundant, 5	15
5. DURABILITY—10 Pts.—Continuance of bloom on spike, 5; lasting qualities as cut flowers, 5	10
6. GENERAL EFFECT—10 Pts.—In mass, bed or field, 5; in vase or cut display, 5	10
Full total	100

Among the S. A. F. exhibits were quite a number of new, and comparatively new Gladioli that possessed merit. An especially pleasing variety was No. 406 which I suppose will make its debut ere long under name.

Fairy, the exquisite shell pink Primulinus Hybrid was most beautiful.

Early Sunrise showed good substance and large size, and growing in my own test plot this season, under ordinary conditions, measured 5 ft. 4 inches in height with well placed flowers five inches across. Planted June 20, bloomed August 17th.

One exhibit of 600 spikes of variety *Wilhemena Gude*, brought from Tennessee, showed remarkable substance.

Among the better known varieties *Golden Measure, Mrs. Dr. Norton, Niagara, Evelyn Kirtland, Herada, Mrs. Frank Pendleton, Jr., Gretchen Zang*, were all well grown and made a good showing.

Artificial flowers, Xmas trees, and colored grasses were there a plenty. Our dignified Teasels were there in new colors, old blue, etc. They are of course artistic and have a place somewhere like artificial flowers, but I believe I could "say it" better with real flowers.

MRS. A. H. AUSTIN.

Ornamental Shrubs.

One who would have his grounds as attractive as possible must exercise considerable discrimination in selecting his plants. Too often one yields to the temptation to plant shrubs that shall present an attractive appearance at flowering time only, whereas, if more thought were given to the matter, equally fine plants could be selected that would possess much beauty at other times. There are always sufficient flowers when the great burst of bloom is on in May, but often there is a conspicuous lack both earlier and later. By judicious planting one may, however, have flowers both early and late, and bright colors always. Early spring brings the golden bell, corylopsis and garland flower (*Daphne*) while some species of dogwood and willow vie with them in color. In late summer there are the Rose-of-Sharon, blue sage (*Caryopteris mastacantha*), butterfly bush, pea tree, abelia, hercules club and various others. Even autumn is not without its blooming shrubs and the witch hazel often flowers in November. The brightest colors of this latter season, however, are given by leaves, berries and bark. The bright red of barberry, high bush cranberry, and hawthorn, the orange and red of bittersweet, and the clear white of snowberry, are more conspicuous after the leaves have fallen, but the most brilliant reds of autumn are due to the colors put on by the leaves of sumach, chokeberry, barberry, and young plants of the wild crab. If nurserymen were to give somewhat more emphasis to the good points that shrubs possess in addition to flowers, it is probable that a more extensive business would result.—*The American Botanist.*

The Kunderd Gladiolus varieties *Mary Pickford* and *E. J. Shaylor* were both awarded first class certificates of merit by the Royal Horticultural Society of London on August 10th. These varieties are both comparatively well known in this country.

THE ROSE

Planting of Roses.

This is often delayed until the leaves have fallen, but where the best results are desired next season, planting should be proceeded with at once. The plants should be cut well back, all broken or damaged roots shortened, also all the leaves removed in order to assist root action, which will take place immediately if the work is carried out while the soil is still warm. Where beds have become thin from various causes and in need of filling up, it is a good plan to take out a hole one foot to eighteen inches deep where such plants are to go and fill it, when planting, with fresh compost, presuming the bed is in good heart and the remaining plants satisfactory. I have seen Roses treated on sandy soils in this way, clayey soil being used with splendid results. I will give an instance of the advantage of early planting. Some beds hitherto filled with Roses were required for Phloxes, and it was decided to move the former early in October. The beds for these Roses not being ready at the time, they were laid in nursery-beds. On November 5th they were again lifted and transferred to their new quarters. Although many of these were quite old plants they had become a mass of fibrous roots during this short period and were taking hold of the soil in the most delightful manner, illustrating what a splendid practice it is to get the planting done while there is still warmth in the soil. The advantage derived is very noticeable the following year. I have planted Roses in January and February when the soil has been wet and soapy, and have found, even six weeks later, not the slightest sign of new root action. If early planting were more generally adopted we should hear less of plants having succumbed during the winter. E.

——— Whatever is done in preparing for Roses must be done well, as only good culture will give satisfactory returns. When the soil is got ready several weeks in advance of planting it gets settled down and is, consequently, in a better state to receive the plants. In preparing the site for a Rose-bed, deep working and moderate manuring are essential. If the soil is good, the ground only needs trenching to a depth of three feet adding some good rotten manure, keeping this well down so that it will not come in contact with the roots. On poor, shallow, or very light soils it is necessary to remove part of the sub-soil and replace with good, fresh, turfy loam of rather a heavy, greasy nature. Roses also dislike stagnant moisture at the roots; thus in low-lying situations where the soil is very heavy and retentive, it may be necessary to lighten the staple with burnt refuse, road scrapings, etc. The beds should be simple in form, and, if planting for effect, preference should be given to Hybrid Teas and the best China Roses, planting in masses of one sort.—F. W. G.—*Gardening Illustrated.* (English.)

Rosa Nitida.

Looking through the garden in the last days of November, one is struck with the brightness of the scarlet hips of Rosa Nitida and the ruddy coloring of the younger branches. Its late bloom is probably the cause of its retaining its hips longer in beauty than many of the other Roses, while the fact that they are plentifully produced makes the plant much more attractive. These hips are small compared with those of many of the other Rose species, but their pretty globular form and bright scarlet hue make them specially attractive.—Ess.—*Gardening Illustrated.* (English.)

Autumn and Winter Pruning of Tea Roses.

Gardening, like other arts, is overridden by stereotyped rules, among them that we must not prune Roses until April. I followed this for years, and saw the fair *La Tosca* and *Marie Van Houtte* knocked about by equinoctial and other gales, the stems at base forming a greasy pithole with the ceaseless movement of the winds. I have had some thousands of like Roses over long years and make no difference between the Teas and Hybrid Teas, thinking that a vain attempt at classification.

Then doubts arose as to the wisdom of letting the most beautiful of Roses be knocked about like briars during our long winters, and I began to relieve the bushes a little from the power of storms by cutting them half way down. That did a little good, but it led to a better way.

I begin to prune in late October and do all I can in November, and with good results. I prune close to the best young growths. This helps also in clearing the beds so that we may attend to the various surface plants beneath the Roses. I never mulch except with living plants, often choice perennials, Pansies, Wood Forget-me-nots, Missouri Evening Primrose, Grey Speedwell, and Wall Hairbell. As I write (November 25th) some of the beds are done and ready for the spring. Others I hope to finish this month leaving as little as possible to add to the spring work. A few beds only are left fallow for things we can only plant or sow in early summer—Heliotrope, Mignonette, some Carnations, and the choicer annual flowers of California and Australia, Rhodanthe, and Swan River Daisy. Some of the Californian annuals I sow in September in Rose-beds not requiring much change, Nemophila insignis and Collinsia bicolor are now fresh in growth among the Roses. If one lived in the Riviera or France the Roses would bloom on, but in our clime they waste their energies trying to grow, and they are far better at complete rest.—W. R. in *Gardening Illustrated.* (English.)

Rose fanciers will be glad to know that we have an article on the history of Rose growing in America for November. Our November issue will be somewhat of a Rose number and contain much information on Roses.

American Rose Society

The following Roses have been approved by the registration committee of the American Rose Society, and unless objections are received within three weeks of this publication the registration will become permanent.

Name—*Red Columbia.*
Class—Hybrid Tea.
Parentage—Sport of *Columbia.*
Description—The general habit of the plant, character of the foliage and freedom of growth and hardiness is the same as *Columbia.* The flower is a long-pointed bud of good texture, and of a brilliant scarlet color which is similar to *Hoosier Beauty.* The petalage, however, is not as full as *Columbia.* Freedom of bloom and lasting qualities all that can be desired.
Offered for registration by The Jos. H. Hill Company.

Name—*Betty Alden.*
Class—Polyantha.
Parentage—Tausendschon x Dwarf Polyantha.
Description—Vigorous growth with glossy, dark green foliage; medium in size; very vigorous and hardy bud; flowers single, in clusters; color, apple blossom pink changing to pure white.
Offered for registration by R. & J. Farquahr.

Name—*Beacon Belle.*
Class—Polyantha.
Parentage—Tausendschon x Dwarf Polyantha.
Description—Habit of plant, character of foliage, freedom of growth and hardiness similar to *Betty Alden.* Flowers in clusters, very double and many petaled and close; flesh color becoming pure white when in full bloom; fragrance slight.
Offered for registration by R. & J. Farquahr.

Name—*Boston Beauty.*
Class—Polyantha.
Parentage—Tausendschon x Dwarf Polyantha.
Description—Habit of plant, vigorous with leathery dark green foliage; hardy in growth; flowers in clusters full and double. It is clear pink in color with strong fragrance.
Offered for registration by R. & J. Farquahr.

Name—*Eugenia.*
Class—Parentina.
Parentage—Sport from *Madam Eduard Herriot.*
Description—This variety is similar to the parent in all respects except that the flowers are flecked or striped with yellow.
Offered for registration by H. L. Collier, Seattle, Wash.

E. A. White, Sec'y.

Instructions on Growing Mums.

The Illinois State Florists' Association are distributing quite a number of Chrysanthemum plants among the children of that State and they have published the following instructions for the benefit of those who are taking advantage of the opportunity to secure the plants:

"When the plant is received, pot it in a 4-inch pot in good, rich soil, and place it where it will receive the full sunshine, and when large enough shift into a 6-inch pot, being careful to put in good drainage and to keep it well watered at all times.

"When the plant is about 4 inches high, pinch out the top, which will make it produce side branches, and when these are about 3 inches long, pinch out the end, and so continue to do until August 10, making a bushy, well shaped plant.

"When the flower buds form, pinch off all but the one terminal bud on each branch; this will make better flowers of the ones that are left. When there is danger of frost see that the plants are covered, or in the house, as a frost would spoil the flowers. After the buds are set a little extra fertilizer will help make better flowers.

"Another plan of growing would be to plant it out in a sunny place in the garden and keep well cultivated, keeping it pinched back and well shaped, same as described, and then about the first of September dig carefully and pot in a 6 or 7 inch pot, being careful to take it up in good shape and keep shaded and sprayed for a few days, when it should again have the full sunshine. If the pots are plunged in soil it will help keep them from drying out. Each plant should be tied to a neat stake with a thread leading to each branch."

In addition to giving away the plants the florists have gone to considerable expense to advertise the fact.

The American Iris Society.

AUGUST has been a busy month with the collection of the seed pods, the propagating, and replanting, and soon it will be time to plant the seed from each pod each in its carefully recorded square. At present they are resting serenely on a sunny window sill, cleaned and drying, most provocative of joyous anticipation for who could resist dreaming of what an Alcazar or a Carthusian seedling might not produce. Mr. Bonnewitz tells me that he plants the seed immediately, that they will germinate this fall and some even bloom another year, but with me fall germination is of doubtful value.

Iris *dichotoma* has been the sole representative of the Iris family at this season to bloom, but I must confess that its delightful evanescent flowerets are not a bit in character. The browning pods of the sibericas have almost a pictorial value, the scarlet seeded fœtidissima is bright even thus early and who can resist the appeal of fresh growths that spring up with the autumn rains. Sometimes the leaf sheaf is actually burst asunder by the sprouts and an old rhizome may show a litter of slender spikes along its sides, only where the dead leaves have been left untouched are the plants unsightly. But at this season, it is the correspondence, not the garden, that proves of interest, and, though I have been much involved in the routine of getting plants for our trial grounds, I want to share with all some of my gleanings, mere odds and ends to be sure, but bits of information at that.

From Mrs. Minto, out in Oregon, comes a note on Caterina which there is superb, (how these far-westerners can grow things!) and a little report of a visit to Mr. Monteith's show garden where the Irises with other flowers are on walled terraces, their colors blending or contrasting with the grey stones. Lady Foster which, with me, is of a most shy and retiring disposition, is in fine bloom, and I was much amused to hear that Nibelungen really wouldn't fit in with others at all. I have always considered it A No. 1 in growth and size and all but absolutely hopeless for a color combination. How does it strike you?

Then there is a note from Florida referring to hexagona and its rarer white form. It is sent north in July and as a pot plant, or perhaps a tub plant, thrives luxuriantly, and blooms from November until April. Recently while going over some old numbers of the *Gardeners' Chronicle* I found a note by W. J. Caparne on the forcing of the dwarf pumilas. The plants were dug in December and single flowering rhizomes planted in flats or greenhouse beds, thirty or forty to a few square feet, and by the first of February there was a mass of bloom, as the illustration showed. I hope that some of you will try it and report. From my few experiments I should look forward to success.

In regard to I. Susiana, Mr. Lown of New York, writes:

"This is not difficult to grow and bloom, but much depends on weather conditions late in the season. If very wet the plants start into too much fall growth and do not bloom well the following spring, while after a dry fall they always flower well. It is for this reason that my plants are in a very well-drained rock garden that is never watered except by rain. The soil is as usual for a rock garden, sand, humus, and loam and for me a rather poor soil seems to suit it. Some of my plants did not bloom this year and will be moved to a still dryer site. One clump has produced five to seven flowers for the past six years, but it made too much growth last fall to bloom this spring. I. *iberica* bloomed but one year under the same conditions."

The following extract from a letter from one of our members, Mr. F. Cleveland Morgan, is of interest and I am frankly envious of his opportunity to import Susiana and the newer Irises unrestricted by Quarantine 37. I wonder, by the way, what luck our American members have had with their importations this year:

"In the neighborhood of Montreal, last winter proved a very trying one to the garden. A long cold spell with the thermometer away below zero and little snow killed or seriously damaged many of the old reliables —Hollyhocks, Foxgloves, Canterbury Bells, and many of the Phloxes were killed outright, even the Bearded Irises were not immune, patches of *pallida Dalmatica, Chester Hunt, Anna Farr, Mary Gray, Black Knight* and other varieties failed to appear. Curiously enough one plant of I. *bucharica* survived and bloomed towards the end of April and with it flowered a lovely clump of I. *reticulata*. A few years ago I succeeded in getting one flower of I. *persica* and though the bulb survived several winters, it never bloomed again.

Towards the middle of May the purple I. *pumila* made a brave show and with it came the variety *caerulea*. By the end of the month the numerous bearded hybrids and other dwarf species were in flower, the delicate blue gray of *gracilis*, the deep toned *cyanea*, yellow *lutescens*, and the fine mahogany red of *lurida*. The white Schnee-Kuppe was badly hit and most of Florentina was killed outright. Altogether the Bearded Irises were a disappointment this season with little or no flowers.

Iris *arenaria*, which I had from Mrs. Wilder, is doing well in full sun and light soil and I have a fine clump of *graminea*. I generally succeed in having a number of good blooms of *Susiana* though I find it necessary to replace a certain percentage of the tubers each autumn, but this winter was too much for this southern species and none appeared.

The hybrids Parvar and Paracina are much hardier and do not seem to require special treatment. The tall yellow *pseudacorus* suffered a good deal, some patches in light sandy soil being entirely winterkilled. I have had the same trouble as Mrs. Wilder with *verna* in trying to get it to bloom freely though it stands the ordinary winter well.

I. *cristata* proves an easy beauty and this summer its cousin *tectorum* sent up some flower spikes. Siberica and the allied orientalis were very fine, ranging from the slender *Koreana* to the broad petaled *Blue King*, and the white *Snow Queen* is particularly good here. I wonder how generally the lovely variety *nigrescens* is known. I saw it about five years ago in the Experimental Gardens at Ottawa and was given the roots which only bloomed this summer. The flowers are of the typical Siberica type but of a deep velvety purple. It is evidently a slow growing species and dislikes being disturbed. I was told by Mr. Perry in England this spring that it was not to be had in the trade.

An exquisite and easy Iris for the rock garden is *gracilipes*, it seems to thrive in almost any situation with a cool root run in sun to half shade. I have twice had *minuta* with its charming little yellow flowers but it gave up the ghost. It is hardy, I am sure, for I saw it growing happily enough in Mr. Lown's garden in Poughkeepsie."

Just a note as to progress and I will stop. Our membership is well over four hundred and fifty. Let us go over the five hundred mark before New Years even though we do outnumber most of the similar societies already. The number of names in the check list is climbing also, over 3,000 now and it is so well in hand that we hope to be able to co-operate with Cornell in its publication within a reasonable time. We owe much to the Dutch, French, and English growers who so painstakingly have helped us to hunt up the old varieties. The classification is apparently at a standstill, but thoughts on symposium, registration, nomenclature, exhibitions, and all the rest are already for winter study. The growing season does not seem an opportune time for lengthy correspondence.

Don't forget that now is the time to plant the Bulbous Irises, the Spanish and English forms at least are obtainable in this country and I for one, plant them even if I do get only one good season of bloom. Try a few for yourself. R. S. STURTEVANT, *Sec'y.*

REGISTRATION.

Black Midget—Black purple dwarf. Mrs. E. P. McKinney.

Brandywine—B. H. Farr.

Colonial Dame—Deeper Nuee d'Orage. Mrs. E. P. McKinney.

Dusky Prince—B. H. Farr.

Georgia—B. H. Farr.

Glee—Dwarf early yellow. Mrs. E. P. McKinney.

Her Rival—*Her Majesty* with more yellow. Mrs. E. P. McKinney.

*Insulinde**—Large velvety lavender bicolor. E. H. Krelage.

Mary Orth—B. H. Farr.

May Morn—Opalescent yellow. Mrs. E. P. McKinney.

Mountain Maid—A good sized pink. Mrs. E. P. McKinney.

My-Lady—Lavender and white. Mrs. E. P. McKinney.

*Phyllis**—Lilac and mauve. E. H. Krelage.

Piquante—Lilac pink plicata. Mrs. E. P. McKinney.

*Queen of the Blues**—Tall lilac blue self. E. H. Krelage.

Regale—40 in. clear lavender blue. Mrs. E. P. McKinney.

*Semiramis**—Pearl grey and reddish violet. E. H. Krelage.

Simplicity—White with pink style-branches. Mrs. E. P. McKinney.

Ute Chief—B. H. Farr.

Wedding Gown—Ecru tints. Mrs. Wm. Crawford.

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* Awards of Merit, Haarlem Bulb Growers. South Holland.

THE IRIS.

Iris Thrive in Minnesota.

In an article in the August number of The Flower Grower the impression is given that Iris do not thrive well in this state (Minnesota). In all locations in the state except where drainage has not been properly attended to, or on high places where snow does not lie during winter, Iris thrive wonderfully well. In my garden which is just an ordinary location, I grow *Black Knight, Isolene, Alcazar, Edouard Michel, Mary Gray,* etc., without ever thinking of using a mulch of any kind. Once in a while I have an occasional plant which shows root rot, but where is the location in which this does not occur? This season has been exceptional in that rain fell daily for three weeks during the latter part of June and the first half of July and no plants were lost by rot. Heavy snows and spring's opening in March do not injure Iris in the least on soil with proper drainage.

A. C. Arny.

Iris Siberica.

(Subject of illustration on front cover page.)

Iris *Siberica* or the Siberian Iris is one of the most valuable of the Irises for the garden. It blossoms in late June and early July, giving flowers at a time when very few flowers appear in the hardy garden. It seems equally adapted to both dry and moist places; growing strong and healthy in a very heavy soil, and doing equally well in light sandy loam. The variety *Siberica* which is a very deep blue or rich purple, which is illustrated, was photographed July 1st, at which time my Siberian Irises were very good. The best time to plant this species is in the Fall, during August, September and October, planting roots between two and three inches deep. Cultivation is the principal requirement, although fertilization adds to the size of the plant, which in turn gives you larger and better quality flowers. Any well decayed dressing is good, and can be applied anytime throughout their growing season. The best time to fertilize, is when you are preparing your soil to plant them, or early in the Spring, when cultivation should be commenced.

J. K. Alexander.

A Black Iris.

Last autumn the Society received from a correspondent with the troops in Cilicia, Asia Minor, seeds and root-stocks of what our friend said was a black Iris he had found growing wild among the hills. The seeds were sown but failed to germinate; the rootstocks, small and brown, looked like pieces of dried stick, though they showed the nipple-like points characteristic of the section known as Cushion Irises. They were planted in a small bed in the open garden, and this spring sent up numerous narrow, pale green leaves, followed in June by two 18-inch flower spikes. The flowers were very much larger than any of those in the adjoining Iris bed, being 5½ inches by 4¼ inches broad. They were not quite black but of a deep brownish-purple. In the centre of the falls—as the outer segments of the perianth are called—were velvety black patches corresponding to the honey guides of other flowers. The rounded standards had somewhat lighter edges, and these as well as the falls were densely clothed at the base with long brown hairs. It proved to be a form of Iris susiana, but with larger flowers and narrower leaves than the type. The Oncocyclus section to which it belongs are all natives of the Caucasus and Asia Minor. It is said to contain the largest and most beautiful of all the Irises, but to be the most difficult to grow well.—Quarterly Summary of the Royal Botanical Society of London.

Northwestern Peony and Iris Society.

W. F. CHRISTMAN, *Secretary.*

If for any reason you were unable to complete your planting of Peonies and Iris in September, there is still time in October or very early November. You are saving considerable time by planting this fall rather than putting it off for another season. With the Iris they can be planted during the spring to advantage and some prefer to plant them at that time, but there is no doubt that fall is the best time to plant Peonies.

Have received numerous reports from nurserymen that they have experienced large sales this fall, which means that increased plantings of both the Peony and Iris have been contemplated. It is our earnest wish that many a novice will be gladdened during the spring of 1921 when they behold for the first time some variety of the Peony or Iris with which they have had no previous acquaintance. With the reasonable prices at which splendid varieties of both the Peony and Iris can be secured, most anyone can beautify their grounds with these flowers.

After the June season of bloom has been enjoyed, the anticipation of new blooms that will greet us the coming season, along with the ones we have formed an acquaintance with, tides us over the months with increasing pleasure. It is a source of gratification to work among our plants and groom them for their next season's performance. The fall months, the finest of the year, can find us still absorbing enjoyment over our planting activities, and during the winter months we can study our plantings and varieties, and make our plans for the coming year. In this manner month after month passes very pleasantly for the Peony or Iris fan. Why not get in the game with us and enjoy this continuous feast of pleasure.

In nearly every catalogue can be found very explicit directions for the planting and cultivation of the Peony and Iris, so it is an easy matter to plant properly and cultivate intelligently if the instructions are followed. Secure good, healthy plants from reliable nurserymen, as this is the first essential step toward the road to success. If poor plants or varieties are secured we cannot expect satisfactory results. It is manifestly obvious, therefore, that if we do not possess some information relative to the plants we contemplate purchasing, it is incumbent upon us to rely upon the recommendation of others. Tastes, however, vary so widely, that I feel the most satisfactory way is to visit the various nurserymen in your locality or attend Peony or Iris exhibits and there choose your favorites among the numerous varieties displayed and book your purchases at that time. This is the best possible way to determine the merits or demerits of any particular variety, and by booking your orders early you are assured of delivery at proper planting time.

How many of us have been venturesome enough to attempt the raising of new varieties? A most interesting and instructive article on the hybridizing of new Peonies is to be found in the new catalogue recently issued by the Brand Nursery Company, of Faribault Minn. A Peony Manual would be a better classification for this splendid publication, as the manner of cultivation and hybridization has been dealt with at length by one of the greatest Peony experts of the present day, in a simple, plainly understood manner, that will make it possible for the layman to become an enthusiast. There are no secrets withheld. A careful selection of seed is imperative. Patience, perseverance and vigilance, coupled with the ability to carefully discriminate and not be too enthusiastic over your efforts until your creations have been subjected to a rigid test and comparison with already existing varieties is essential if the best results are to be obtained.

There is no question in my mind that many varieties are named and put on the market that have no place in the trade. A number of growers have started the elimination process and many of them have reduced their list of offerings materially. Some varieties that do splendidly in some localities do not give as good an account of themselves elsewhere, therefore the process of elimination is a hard problem to successfully carry out. Let us lend our co-operation whenever possible, as the desirability of such an affiliation is obvious.

The plan of holding an Iris show a week or two preceding the Peony exhibit will be worked out this coming spring. The American Iris Society will doubtless gladly co-operate with us in staging a first-class Iris show. It has been demonstrated without question of a doubt that the Peony and Iris cannot be displayed at the same time with any degree of success. This matter will be taken up at the proper time and a committee appointed to act in the matter and their findings presented through these columns.

An effort is being made this fall to get as many contributions to the trial garden at the University Farm as possible. Both Iris and Peonies are desired. This garden will be under the direct supervision of Prof. LeRoy Cady of the University Farm School and a committee of the Northwestern Peony and Iris Society. The advantages of such a garden are many. It would be under the direct care and supervision of an expert and the plants will have uniform climatic, soil and cultural conditions and be in close proximity for purposes of comparison. This test garden will be at the disposal of anyone interested in the Peony or Iris who desire to check or test varieties they already possess or are about to acquire. Ample space has been provided for the proper care and handling of the plants so that the very best results can be obtained from the plantings. A number of splendid varieties will soon be fully established and with the addition of others a splendid representative garden will soon be a reality. Considerable progress was made last fall and further progress is being accomplished this fall. Any donations to this test garden will be thankfully received. Those not wishing to donate outright may have the option of having their plants returned after a period of three years. A careful record is being kept of all donors so there will be no confusion in this respect.

All contributions should be addressed to Prof. LeRoy Cady, University Farm School, St. Paul, Minn., marking plainly the name of the variety on each plant and from whom sent.

One of our readers wants to know about the sweet scented African species of Gladioli. Do any of our readers know where stock of same can be obtained? If a sweet odor could be bred into the Gladiolus, its popularity would be greatly enhanced, and we all know that the Gladiolus has gained in popularity enormously during the past few years.

Chrysanthemums for the Garden.

BY CHAS. E. F. GERSDORFF.

[*Written expressly for The Flower Grower.*]

ONE OF THE POPULAR ways an amateur plans for a garden of Hardy Chrysanthemums is to make a selection from varieties exhibited at flower shows, and in this way includes in his collection varieties which will not develop blooms outside owing to their lateness. Many people are also under the impression that Hardy Chrysanthemums comprise only the small flowered or pompon type. This is partly due to the fact that they are not informed as to the progress made in Chrysanthemums for the garden, and partly on account of the fact that florists claim that it is impossible to grow the large flowering kinds without the aid of a greenhouse. This latter is partly untrue. If early and early midseason varieties are used and the same care given as when greenhouse grown, flowers the equal of, or nearly so, of the latter, can readily be produced outside.

From a garden standpoint, it follows that the extra early and early flowering kinds are the most desirable. In rare instances some of the later blooming varieties will do well. With this in view, I present here a list of varieties which I have found most satisfactory for garden culture. However, it does not necessarily follow that these same varieties will do as well in all localities as they have in the District of Columbia. I can, however, recommend them for trial.

For completeness I have selected varieties from several classes—the button type pompons, medium and large flowering pompons, single and semi-double type, anemone pompons, early very large flowering French type, and a few of the greenhouse varieties noted for their ease of culture. Following the description of varieties I give data as to culture, etc.

Among the early pompons *Mrs. Francis H. Bergen*, deserves honorable mention, it being of the extra large flowering type, growing in beautiful sprays, tall in habit, its flowers possible of improvement in size by disbudding, with a color that is pure white delicately tinged on outer petals with rosy pink, remarkable for their lasting and free blooming qualities. Fine for background.

In pure white there is that lovely rounded short petaled *White Doty*, one of the medium sized pompons. Tall in habit, flowering in beautiful sprays. Another fine white is *Elva*, a large pompon of incurved form, pure white sometimes shaded with blush. It is of medium height and forms a nice bush. Its season is extra early. It is freer in bloom than *White Doty*.

In yellows, I place *Overbrook* first. Not a large flower but full double, of desirable rounded form, medium in height, free blooming and medium early. It is a deep rich yellow in color.

The earliest to flower is *Zenobia*, of a pure yellow color and profuse in bloom. This belongs to the button type.

Eagle D'or, early in flower, of a pure pale yellow color, button type and dwarf growth is also desirable. Fine for the front of borders.

Of medium size, rounded form, midseason in bloom, of medium height and a beautiful rose violet shade is *Rena*, one of the newest varieties. Another of about the same shade, with reflexed petals, medium size, in beautiful sprays on long stems, habit strong and upright, is *Ruth*.

Of pinks there are many. Mention must be made of *Fairy Queen*, a large pompon, clear pink in color, of reflexed form and produced in fine sprays. It is of dwarf to medium growth and medium early. Then there is *Nesco*, a button pompon but larger than *Baby*, medium in height, midseason in blooming, free, and of a beautiful old rose color.

Niza, very early in bloom, delicate pink in color and of medium dwarf habit deserves mention here. A dainty little button pompon is *Nio*, delicately beautiful, freely produced in fine sprays on a medium tall plant, of a soft pinkish buff tinted white. It comes into perfection the latter part of October.

The counterpart in size, form and growth of *White Doty* is *Lillian Doty*. Its color, however, is a beautiful shell pink. A newer variety, one of the first to open, growth about the same as *Lillian Doty* is *Captain Cook*. It is a lovely shade of rose pink.

The bronze shades are peculiarly adapted to autumn decorations. In *Inga* we have a beautiful large flowered mahogany red of medium tall growth. In the small button type there is *Brown Bessie*, a mahogany brown and a dependable bloomer. *Inez*, another of the button type, but larger than *Brown Bessie*, is medium dwarf in habit, and free flowering, bronzy red in color.

A beautiful bronze colored pompon, originated by the U. S. Department of Agriculture, of the button type but fairly large, medium in height, is *Lizzie*. In *Adironda* we have a variety giving beautiful blooms of a golden bronze. It is medium early and of the button type.

The single and semi-double Chrysanthemums have rapidly gained in popularity. There are very good reasons for this. They are very free in bloom, and are noted for their ease of culture. The color range here is great. Some have but a single row of petals, flowers being small to very large. Some have from two to several rows of petals. Some are semi-double, the latter being particularly beautiful when incurved, resembling beautiful Waterlilies.

Dainty, a small single blossom produced in large graceful sprays, of a redish bronze and yellow pink in the bud and delicate rose pink when open, makes beautiful bushes of medium tall height.

Ares, a single deep velvety, cardinal scarlet in fine sprays without disbudding, of medium dwarf growth, early in bloom, adds a rich color to the garden at this time of the year. It is fine for cutting.

A beautiful white is *Irene Cragg*, medium in height, produced in fine sprays without disbudding, and has but a single row of petals which are slightly quilled near the center but otherwise open flat. Disbudded the flowers are much improved in size and form.

In *Virginia Holden* we have another beautiful variety, single, in fine sprays, a deep crimson of velvety tone.

For a rich deepest yellow, almost an orange yellow, there is *Alice Howell*, early in its blooming season, with good stems and of dwarf growth.

In *Louise* we have a variety with several rows of petals, flowers produced in close sprays. It is of medium dwarf growth, large foliage and its flowers are a light salmon pink shaded with yellow.

Clara is a beautiful semi-double, very free flowering white of fairly large size. Medium tall in height.

For a beautiful light lavender pink in large fine sprays, medium tall growth, select *Mrs. Albert Phillips*. It blooms in midseason.

One of the newer varieties of merit is *Ruth S. Bergen*. It is of particularly strong growth and its flowers are produced in unusually long sprays. In color it is a brilliant amaranth with a straw yellow zone around the center.

A pale pink with a very large flower and one of the best is *Miss Mary Pope*. *Josephine* is a splendid very large yellow of exceptional merit, medium tall to tall in growth.

The hardy early flowering French type produces large flowers somewhat on the style of the reflexed type grown commercially in greenhouses. The flowers are produced in small sprays, or can be made to give large to extra large blooms by disbudding. No particular bud need be "taken" as in the case of so many of the greenhouse varieties. The color range is even greater than any of the other types, not excluding the greenhouse varieties. You can have them in plants that are quite dwarf to some that are tall. With me they have proven of exceptional value not only for the garden but for cutting. For lack of space I list a few of the best:

Fee Japonaise is a fine creamy white with drooping petals, two feet tall and very early.

Goacher's Crimson gives very large flowers of a bright crimson with gold reverse, dwarf in habit.

In a rich buttercup yellow, very free in flowering, extra early, we have *Leslie* to count upon for a goodly supply of fine flowers that will make a great show in the garden as well as give plenty for the house.

Mignon gives us delicate rosy mauve blooms in profusion. It is early. In *Normandie* we have a variety that is very early, delicately beautiful and hard to beat. It is an extra fine delicate pink of medium height.

Of rather tall growth, creamy white in color is *Perle Chatillonaise*. Fine large flowers can be had by disbudding.

In rich autumn coloring is *Bronze Source D'or*. It is a deep golden bronze. Growth is medium tall. As free a bloomer as its parent, *Source D'or*, from which it is a sport. *Source D'or* has large flowers of a deep bronze and a fitting companion to its sport.

Provence with its large bright pink blossoms with gold points to petals, of medium height, adds variety to one's collection.

Maduse is a variety I would not do without. It is a rich terra cotta shade with large reflexed flowers. It is of medium height and a free bloomer. It is admirably adapted to disbudding or growing in sprays without.

I depend upon *L'Argentuillas* for deep chestnut colored blooms so suitable for autumn decorations. It is free in bloom.

For brightness by all means add *Firelight*, for it is a fine carmine shaded with scarlet.

In *Eden* we have beautifully formed flowers of a fine rosy pink shade produced freely on a plant of medium height. For a semi-double loosely formed flower, pure white in color there is *Franfield White.* It is the earliest to flower.

An extra early yellow of dwarf growth, very free flowering is the golden yellow *Glory of Seven Oaks.*

Chaldon produces large flowers of reddish crimson, with each floret tipped with gold. It makes a fine plant.

One of the most productive and choicest varieties, early in bloom and of a beautiful pink color is *Hortense Malgat.*

In *Tints of Gold* we have a very beautiful extra large rich bronzy yellow, making a wonderful glowing bush if not disbudded for extra size flowers. When disbudded will produce blooms as large as those grown in the greenhouse. Properly speaking it belongs to the greenhouse class but has shown up as entirely hardy and early flowering with me.

Carmelite is of the deepest golden yellow and very free. *Belle Mauve* gives handsome blooms of a fine mauve color, is early and very free flowering.

Another of my favorites is *Brune Poitevine,* giving finely formed, massive flowers of a deep velvety glowing crimson. It is very brilliant and free and of medium height. Can be made to produce very large blooms by disbudding.

A strong grower with large flowers of a bronzy yellow color is *Le Pactole.* Disbud slightly. One of the finest is *Petite Louis.* It is a very strong grower, producing large finely formed blooms of a silvery mauve color. Size of bloom can be improved by disbudding.

A collection of garden Chrysanthemums should include a few of the anemone type. These produce flowers with one or two rows of ray petals surrounding a raised disk of highly developed or tubular central petals forming a cushion. The cushion is often of a different color than the ray petals. The anemone flowered Chrysanthemum can be had both in the pompon and the Japanese types.

Gladys is a flesh white with yellow cushion. Extra early. Pompon, anemone type. *Myer's Prefection* is very large, sulphur white, yellow cushion, early, and belongs to the pompon anemone class. *Eugene Lanjaulet,* a medium early variety is a deep orange yellow.

There are several of the large Japanese anemone flowered kinds worth mention here. *Yellow Prince* is a most beautiful bloom and can be had perfect either small, or large by disbudding. It has maize yellow drooping ray petals with a most prominent cushion of loosely arranged tubular orange yellow petals. It is compact in growth.

Wee Wah is of the same general type as *Yellow Prince,* but is dwarf in growth and the general color effect is terra cotta shading to bronzy yellow.

Juno is like the two preceding in every respect save color which is a delicately lavender-tinted white in the ray petals with center slightly deeper. Growth is medium.

Clemencia is a deep pink shading to a deeper tone in center. In *Pepita* we have a slightly differently formed flower. The cushion is small and nearly flat, of an orange yellow color, surrounded by a number of rows of heavy narrow petals of a pale pink, almost white. A flower much heavier than any of the others and very free in bloom.

There is one plumed variety of Chrysanthemum, which for its fine bushy habit, medium tall height and for its free blooming qualities should be included in the perennial border. It has proved hardy with me. It is a pure white in color with the characteristic hairlike formations on the petals and goes by the name of *L'Enfant.* Disbudded it will produce fine ball shaped blooms. Allowed to grow freely it will give a number of fine looking flowers somewhat flat in form.

It is desirable to include here a few of the large greenhouse varieties which have been tested thoroughly in this locality for hardiness, earliness and freedom of bloom.

Golden Glow is about the earliest variety of all and so easy to grow. It is a rich deep yellow in color. Dwarf in growth. It can be made to give large blooms by disbudding.

Unaka, a fine early pink tinted with lavender, when disbudded will give fine ball shaped flowers. Medium in height.

In *Clementine Touset* we have a very dependable variety which gives fine large white flowers and is early in bloom. *Monrovia* is a very early deepest yellow.

In *Chrysolora* we have a variety of medium tall growth, heavy foliage and one of the finest early deep yellows. It can be depended upon for fine flowers, regardless of size.

Early Frost is a very early white following *Golden Glow,* giving perfect blooms full to center.

CULTURAL NOTES.

Time to Plant:

The best time to plant is during the latter part of April or early in May.

Kind of Plants:

When planting my border, if starting a new one, I set out young Chrysanthemum plants from 2½ in. pots. These can be depended upon to produce fine blooming plants by fall. I have found it advisable to remove all plants that are three or four years old and replace those discarded with new 2½ inch pot plants, except the old plants which are still healthy and full of vigor, these being divided into smaller plants.

Location:

Chrysanthemums will grow almost anywhere, except in deepest shade. A sheltered location, and one that is sunny, is, however, best, for it is in such a place that the earliest bloom will show itself, so that some of the later flowering varieties can often be coaxed into earlier bloom. They will thrive and bloom finely against a wall or fence with southern exposure, but are apt to suffer here from excessive heat during midsummer, necessitating a daily watering.

The best location is one protected from the burning afternoon sun, open to the air and the beneficial morning sun, and protected from cold and drying northwest winds.

Soil:

Chrysanthemums, though not too particular as to location, are, however, fastidious as to soil. The best soil is one that is loose and friable, but well enriched with rotted cow manure or one of the commercial humus preparations now on the market. Strive toward a warm soil retentive of moisture, as Chrysanthemum roots are shallow and spreading.

Feeding:

When the plants are strong and healthy, fertilize with weekly applications of liquid manure made as follows: Using a watering can with the Rose spray spout removed, put in two or three cups of pulverized dry cow or sheep manure and add water to fill the can. Mix thoroughly. Keeping the mixture well stirred pour copiously around the plants, the soil of which had previously been well watered. The loose manure will act as a mulch and being wet will not soon blow away. Some of the soluble fertilizer of the manure becomes immediately available to the plants. Feeding should be discontinued when the buds show color.

Cultivation:

Cultivate often, particularly after a driving rain, but not deep. Allow no crust to form around the plants. Much of this cultivation can be avoided by using a light mulch of rotted cow or sheep manure. The mulch will keep down weeds and prevent the formation of crusts.

Pruning:

When starting with young plants, these, when they are six inches or so in height, should be pruned to force them into a bushy growth. One pruning will produce from three to six or eight stems. Be guided by your own ideal.

Insects:

I have noted that old clumps often harbor diseases or destructive insects, some of the latter being difficult to eradicate, particularly a gray winged insect with wings that stand out giving it the appearance of a small woolly sheep. It feeds altogether on the under side of the leaf, congregating in colonies like the red spider, but minus the web, and if not checked will surely result in the ruination of the plants. Spraying with a weak solution of kerosene emulsion is a sure means of exterminating the pest. It must be done thoroughly, making sure that the spray actually gets to the under side of the leaves. Repeat this spraying every few days for several weeks or until an examination reveals no more of the pest. It is known by the name of Corythuca Gossypi. Another pest but one not so destructive as the preceding and easier to control is the black and green aphis. Eradication is obtained through the use of some tobacco or nicotine preparation. As spraying must cease when the buds are opening, it is therefore imperative that the aphis and other insects be exterminated completely before the buds show color. Caterpillars are occasionally found eating the leaves. Hand picking is usually sufficient unless their numbers are too great. It is then necessary to spray with arsenate of lead or other suitable preparation that is poisonous to chewing insects.

A word about the gardener's friend, the lady bug. In the grub stage it has an elongated, flatish body of a leaden or slaty color and it crawls about the plant searching for food, and, when finding a colony of aphides, makes short work of them. It feeds continuously until it changes into a chrysalis, when it remains gummed to the plant until its metamorphosis is completed into a winged adult which also shows its friendship to mankind and plants by being continually on the hunt for aphides and small insects.

Mealy bugs sometimes infest the

densely leaved sorts, eradication of which may be obtained by spraying with nicotine sulphate "Black Leaf 40."

Diseases:

The two fungus diseases most met with in the garden culture of the Chrysanthemum are stem rot and mildew. Stem rot is caused by the use of rank manure, containing rotting vegetable matter, in the planting soil or to rotting stems, leaves and roots of old plants. Its attack is denoted by the wilting of the leaves, owing to the fact that the fungus takes possession of the tissues, preventing the plant from absorbing moisture from the roots, and this fungus eventually takes hold of the whole plant. An examination of an affected plant will show a circle of white mold near the surface of the soil, but the first infection was in the soil. Little can be done to combat such an attack, and the safest course is to destroy the affected plants. Mildew sometimes manifests itself. Almost everyone is familiar with the white powdery mold on the leaves which indicates its presence. It is due to various causes. It is checked by an application of some sulphur preparation, one of the best being sulphide of potassium, sprayed on.

Winter Protection:

The only protection I give my plants in the winter is a light covering of leaves or straw, this being put on after the ground has frozen hard.

Catalogues and Price Lists.

H. W. Groschner, Napoleon, Ohio—Catalogue of Irises with unusually complete suggestions with reference to varieties.

P. Vos & Son, Mount Clemens, Mich.—Wholesale list of Gladioli. The Vos varieties and selections from the best American and foreign introductions. Prices quoted on various sizes and bulblets.

M. F. Wright & Daughter, 401 S. Clay St., Sturgis, Mich.—Retail list of Gladiolus corms. A very select list with the Kunderd varieties especially represented.

Oronogo Flower Gardens, Carterville, Mo.—Catalogue of Tulips, Narcissi, Peonies, Irises, etc. Also wholesale list.

Mrs. Wm. Crawford, 1602 Indiana Ave., La Porte, Ind. Catalogue of Peonies and Irises from the Crawford Gardens. An unusually complete list divided by source of origination.

P. Hopman & Son, Hillegom, Holland. Catalogue and price list of Gladioli.

Van Wert Iris Gardens, Van Wert, Ohio—Iris catalogue consisting of 36 pages and cover. An unusually complete list with carefully prepared descriptions.

Bertrand H. Farr, Wyomissing, Pa.—Catalogue of hardy plants. Over a hundred pages with index and color illustrations. Irises, Peonies, Phloxes, etc.

J. D. Long, Boulder, Colorado—Fall catalogue and price list of timely flower stocks.

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Forcing Hyacinths for Winter Bloom.

By BERTHA BERBERT-HAMMOND in *Gardeners' Chronicle.*

> Hyacinths purple and white and blue
> Flung from their bells sweet peals anew
> Of music, so delicate, soft and intense
> It seemed an odor within the sense.
>
> —*Shelley.*

While the fragrant Hyacinths are quite widely and successfully grown as out-door spring-blooming flowers, their culture for indoor winter blooming is to some amateurs, still veiled in mystery.

The large flowering single and double varieties of Dutch Hyacinths, so called because the skillful bulb-growers of Holland, have specialized in their development are unexcelled for use either as early spring garden flowers that like the daffodils mentioned by Shakespeare, "come before the swallow dares," or for indoor window forcing.

For bedding out, the inexpensive, medium-sized disease-resistant, old varieties of Dutch Hyacinths will give complete satisfaction, as they produce showy spikes of fragrant bloom the first season and will continue to bloom for several successive seasons, but for forcing, where one season of gorgeous display is the goal, the best developed bulbs of the choicest, early-flowering varieties are essential. To be certain of securing strong spikes of finest bloom, buy only the extra well-developed, selected bulbs. As the quality of the trusses is determined by the quality of the bulbs, there is no economy in the purchase of weak, undersized, or inferior stock for the purpose of forcing. Only large, strong, vigorous bulbs will assure the large magnificent flowers that Dutch Hyacinths can produce. The single varieties of Hyacinths, that are particularly graceful and fragrant, are considered the most desirable for pot culture. They are easier to force than most of the double sorts, and send up superb trusses of flowers in a wide range of beautiful colors. One who has successfully grown these Hyacinths, can readily appreciate the sentiment of Mahomet expressed in the stanza—

> If thou by fortune be bereft
> And in thy store there be but left
> Two loaves—sell one and with the dole
> Buy Hyacinths to feed thy soul.

The forcing in bloom of Dutch Hyacinths is quite simple; they can be successfully forced in water, potted soil or in prepared Holland fibre, the latter a commercial substitute for potting soil. This fiber, which can be purchased of florists, has the advantage of being clean, odorless, and easy to handle. As with its use, a pot with a drainage-hole is not required, any fancy bowl, deep dish, urn or jardiniere may be employed to hold the bulbs. It is a very neat, interesting and convenient way of forcing bulbs, and one that will appeal to the city dweller, who has difficulty in securing proper potting soil. To grow the bulbs in this way, fill the receptacle selected nearly full of moistened fiber, embed the bulbs in it, allowing the top of each bulb to protrude. Place receptacle containing the bulbs into a dark. well-ventilated closet or cellar, until the bulbs have made ample root growth, in the meantime keeping the fibre uniformly moist (not wet), then bring them gradually into light and warmth, avoiding direct sunlight.

For the purpose of forcing the bulbs in water, there are obtainable special Hyacinth glasses that hold the bulb nicely. Fill the Hyacinth glass with *rain* water until it *nearly* touches the base of the bulbs. Put the glass containing the bulb and water away in a dark cool place until the bulbs are well-rooted. Do not disturb the roots by changing the water, but carefully add water as required. A piece of charcoal in each glass to purify the water may be used to advantage. After the Hyacinth bulbs show sufficient root growth they may be brought to light and heat. Hyacinths may also be grown in water in the same way the *Chinese Sacred Lily* is treated, viz.: the bulbs placed in a deep dish of water and held in place by pebbles or small stones.

To force in soil, put each bulb in a four-inch pot (or a larger pot or pan if a group of a kind is desired). See that good drainage is provided, fill the pot nearly full of rich earth, scoop out a shallow hole, and set the bulb into the place so prepared for it, firming the soil around the *sides* of the bulb and leaving the neck exposed above the surface of the soil. By this means, the earth *underneath* the bulb will be left soft and porous, permitting the rootlets, as formed, to penetrate the soil easily. After the bulbs have been properly potted, water them thoroughly and place in a dark cool storage place to root. This will require from six to eight weeks.

By bringing a few bulbs from the storage place at intervals, a succession of bloom may be had from Christmas until after Easter. The flowers will last a long time if kept in a cool room (about 60°), and away from direct sunlight.

After the bulbs have ceased to bloom and the foliage has died down, withhold water, place bulbs in the cellar and leave them until Autumn, then plant out in a permanent bed. Though useless for forcing, out of doors these bulbs will regain vigor and in time will bloom.

In conclusion, I wish to emphasize the fact that the forcing of bulbs is a simple operation, the great secret in the culture being to use only the best "top root" bulbs, and to secure *thorough* root growth before bringing the bulbs *gradually* into light and warmth. Observing these precautions, success is certain.

The New England Fair.

The Gladiolus show at the New England Fair held in Worcester, September 3rd to 7th, inclusive, was not quite as large as last year, but, as I overheard an official say, "not as many in numbers but better in quality." There were more entries than ever before, but some who entered failed to put in an appearance.

The Glads were staged at the north end of Agricultural Hall, covering a space of from 300 to 400 square feet. Mr. C. W. Brown, of Ashland, had some beautiful flowers, among them many of his seedlings. Mr. J. K. Alexander, (The Dahlia King) of East Bridgewater, had his usual fine exhibit of choice varieties. Edgar M. Wilson, of Worcester, also had some good bloom. The collections occupied a space of 90 square feet each.

AWARDS.

First and the silver cup, offered by Mr. Walter D. Ross, President of the Worcester Agricultural Society, for best collection, to Mr. Wilson; 2nd to Mr. Alexander; 3rd to Mr. Brown.

Best 10 spikes seedlings—First, Mr. Brown.

Best vase 12 spikes, White. First, Mr. Wilson, with *Europa*; 2nd, Mr. Brown.

Best vase 12 spikes, Yellow. First, Mr. Brown; 2nd, Mr. Wilson.

Best vase 12 spikes, Pink. First, Mr. Wilson; 2nd, Mrs. Edward Warren; 3rd, Mr. Brown.

Best 12 spikes, Blue, First, Mr. Brown.

Best 20 spikes, 1 spike in a vase. First, Mr. Wilson; 2nd, Mr. Brown.

EDGAR M. WILSON.

We must apologize for lateness of the October issue, but we hope to do better with the November number.

Chrysanthemums.

Cultural Hints and Reminders Including the Dates for Taking the Buds of the Different Varieties.

BY W. H. TAPLIN (in *Florists' Exchange.*)

A RESUME of Chrysanthemum culture in one article must necessarily be rather brief in its remarks, and it will be understood that the present article is not intended as a complete treatise, but rather as a reminder of some of those little details that count for much toward success. Even those of us who have been in the game for many years may sometimes overlook details, the neglect of which may prove costly.

In the first place in order to grow Chrysanthemums successfully one must begin with healthy stock plants, and at the present day this means that the grower must especially watch out for that pestiferous insect known as the Chrysanthemum midge or gall fly, for the insect in question has become very widespread in the past season or two, and if the stock plants are infested with the midge it is useless to look for results from the young plants.

Specimens of this troublesome pest were found in many and widely separated portions of the country last year and any grower of experience knows that it is not an easy pest to eradicate. The characteristic galls formed by this insect are found on both leaves and stems of the affected plants, and where such galls are found it is a safe precaution to destroy the plants and secure some clean stock elsewhere.

Some growers box up the stock plants in deep trays and store them in a cool house for the winter, maintaining a night temperature of 45 deg., and giving ventilation whenever the weather permits. During this period, and for that matter, through the whole propagating period, it is good practice to give the plants frequent dustings with tobacco dust, or else to spray frequently with nicotine solution, thus disposing of the aphis as they appear.

Cuttings are taken as fast as they are ready after Feb. 1, and planted in clean sand in the propagating house, the most satisfactory method being to use three inches of sand in the bed pressed down firmly, and to water the cuttings thoroughly as they are planted. A temperature of 50° in the propagating house with the sand bed 8° to 10° higher is the proper measure of heat for the cuttings, and they should be sprayed over each bright day or frequently enough to prevent wilting. Under these conditions the majority of varieties will form roots in ten days to two weeks, there being an occasional variety that requires a longer time in the propagating house.

As soon as rooted the cuttings should be potted off into 2¼ in. pots, shaded from the full sunshine for a day or two until the roots take hold of the soil, and then be given full light and plenty of ventilation. The young plants should be topped before they get too tall, thus getting additional cuttings and at the same time making the plants more sturdy. When this operation is performed it is best to keep the topped plants rather dry until they start to grow again, this condition encouraging a stronger break of the young shoots.

It is also well to remember that there are a few short-jointed varieties that do not take kindly to topping, examples of which are found in the old *Polly Rose, Pacific* and *Prest. Roosevelt.* In the case of very early cuttings it will sometimes pay to shift on the young plants into 3 in. pots rather than to permit them to get very much root-bound, but the later crops of cuttings will not require this and may be planted out from 2¼ in. pots. As a general rule it may be said that early planting is most likely to produce early flowers, but much depends on the treatment and on the weather conditions, the latter having much influence on the growth of flower buds. Very hot weather seems to retard the flowers to some extent, while cool nights in August will do much to encourage the crop.

The question of solid beds or raised benches is one that often comes up in the mind of the inexperienced grower, and in regard to this it may be said that while good flowers are produced by either method, yet it is undoubtedly true that the raised bench is more under control in the matter of watering, and also gives the grower a better opportunity to get at the under side of the foliage when syringing. Four to five inches of soil gives depth enough for the roots, and the spacing of the plants in the beds depends on the grade of flowers desired.

Those who desire large flowers such as may be sold by the high class retailer in a large city, frequently plant 8 in. by 8 in. on the benches and some times even 8 in. by 10 in. and then grow only one flower to the plant, while others who grow for a less critical trade are satisfied to plant 6 in. by 8 in. and grow two flowers to each plant, the flowers being correspondingly smaller.

But the question of space being decided upon, it is necessary to run longitudinal wires over the bench and overhead to provide support for the twine that takes the place of a stake in holding up the plants, and this being done, the young plants are set out usually between May 15 and June 1.

Some care in watering is required now to avoid getting the soil over-wet, but vigorous syringing is needed to discourage red spider and thrips, both of which are partial to the tender and succulent foliage of the young plants. Before the plants have a chance to fall over or get broken with the hose they should be supported and this may be neatly done by stretching a piece of twine from wire to wire at each plant and by usjng either strong cotton twine or light jute. The plant may be twisted around the cord, as the growth progresses, thus avoiding any further tying.

Spraying once a week with nicotine solution is a safe method to keep down the insects, but if there is any doubt about the clean condition of the plants it is best to add several fumigations with nicotine before the flower buds show color for after that time the syringing has to be less thorough in order to avoid wetting the opening flowers.

In the course of three or four weeks after planting and the weeds having been kept down, it is well to mulch the benches with old manure, a depth of about one to one and a half inches of manure being sufficient to protect the roots and provide some extra nourishment, and in case this top dressing gets washed off it may be repeated a month or six weeks later.

Some of the early varieties will show a bud in July, but unless extremely early flowers are desired, such, for example, as Golden Glow and Smith's Advance, it is not yet safe to take a bud. Briefly stated, the buds of early varieties may be taken Aug. 10 to Aug. 25, those of midseason varieties Aug. 25 to Sept. 10, and the late sorts from Sept. 15 to Oct. 10, according to the condition of the plants. Varieties differ in the time they may be taken, and it is a matter of experience to select a bud just right, those taken too early being liable to be too double to open well, while those taken too late have too few petals to make a good flower.

The "climbing cut worm" is one of the worst pests to be overcome after the buds have been selected on the plants, for the chief object in life of this worm is to climb to the top of a 'Mum at night and to devour the flower bud, and as the worm hides in the mulch during the day it is not easy to find.

Some additional fertilizing material is usually given when the buds show color, some growers using liquid cow manure, and others various chemical fertilizers, but in the latter case it is safer to err on the side of weakness from the fact that most of the chemical fertilizers depend on nitrate of soda or sulphate of ammonia for their feeding powers, and too much of these sources of nitrogen will result in burning the flowers.

For the benefit of beginners it may be said that a Chrysanthemum flower must be developed on the plant, as it cannot be cut when half open and then developed in water, and after cutting the flowers should always be stood in deep vases in order to get as much of the stem in water as possible, and also kept in the water for several hours before shipping.

For general commercial use the incurved varieties are the most satisfactory from the fact that they will pack better and also stand more handling without serious injury.

In the matter of colors, white and yellow take first place, and varieties of these colors are always in demand, while pink comes next, possibly owing to the fact that real pinks are few, those known as pink usually containing more or less purple in their make up. Bronze varieties are used to some extent, though not in very large quantities, and reds still less, a Harvard reunion being quite an event in the market for red 'Mums. Varieties multiply from year to year and all are not equally good, but keeping in mind the suggestions as to colors just noted it would be safe to select a succession of varieties from the lists of specialists like Elmer Smith and C. H. Totty, men who have done great things to improve and popularize the Chrysanthemum in America.

But for the convenience of those who are somewhat inexperienced in the selection of varieties of Chrysanthemums for commercial use, the following brief list of standard varieties is suggested:

For early flowering, which means varieties which follow such abnormal sorts as Golden Glow and Smith's Advance, we suggest *Chrysolora, Unaka* and *Early Frost,* for yellow, pink and white respectively:

Midseason varieties in the same range of colors are *Col. Appleton, Chieftain* and *October Queen.*

Late flowering sorts could include such fine varieties as *December Queen* and *Major Bonnaffon* for yellows, *Dr. Enguehard* and *Maud Dean* for pinks, and *Jeanne Nonin* and *White Bonnaffon* to complete the whites. The bronze tinted may be well represented by *Mrs. O. H. Kahn, Tints of Gold* and *Tekonsha.*

These are all varieties that have been grown for some years and have stood the test of time, but for the benefit of anyone who wishes to test some newer sorts, the following list of varieties of recent introduction has been prepared by Elmer D. Smith, whose knowledge and judgment in the matter of 'Mums are well known and appreciated throughout the country:

Yellow—*Sun Glow, Golden Queen, Midnight Sun, Tiger, Loyalty.*

White—*Liberty Bond, Betsy Ross, Smith's Imperial* and *Victory.*

Pink—*Helen Lee.*

This issue is especially rich in Chrysanthemum lore. The articles on this subject should prove very valuable to lovers of Mums.

Queries and Answers Department.

"All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication."

Gladiolus Troubles.

To the Editor:—

Practically all my Glads are looking sick, and showing white strips along the edges of the blades and in some cases the ends of the blades seem to be dead.

What is best to drive away or destroy Aster beetles on the Gladiolus? They eat the buds before opening and petals after they are opened.

If you can help a little to solve the above problems with an answer in The Flower Grower, I think a lot of amateurs would appreciate it.

Frank N. Skinner.

Answer—The yellowing or browning of the edges and tips of Gladiolus foliage may indicate diseased bulbs or the effect of extremely hot weather. This also sometimes happens during a hot and humid period of weather. It may also result from a surplus of water in the ground. There is nothing that can be done and usually this trouble is not serious enough to need a remedy. Some varieties are much more susceptible to this trouble than others.

We doubt if any remedy is necessary or would prove effective in destroying beetles on Gladiolus buds. The buds form so rapidly that any remedy applied would be but temporary. Our own experience is that the damage is on such a small proportion that it is hardly worth while to bother about a remedy.

Short Spikes from Gladiolus America.

To the Editor:—

I found many short stems last year among my *Americas*. I attributed it to a spot of barren soil, and I allowed the corms from those short stems to get mixed with the others and this year have short stems all over the field, and more of them, I think, than last year, so I presume it is something else. The individual flowers are just as large, but the stem is rather blunt at the end, and not so many flowers are fully developed. Would old corms have a tendency that way? I have a good many old corms. If it is not that, what do you think it may be?

W. G. Nyce.

Answer—Think probably that your results are as much owing to weather conditions as anything. We find this season many varieties inclined to make "bunty" spikes on the end of a rather long stem. This we attribute to the continuous warm and humid weather since about June 15th. Of course old corms have a tendency to develop poor flower spikes, but we don't think this is your chief trouble this year.

Growing Calla Lilies.

To the Editor: —

I would like to obtain some information concerning Callas. I have some large plants which have been growing since last fall, having been repotted last June. Can I take these plants now and give them a rich soil and larger pots and expect flowers this winter?

H. L. C.

Answer—Much increased interest in the growing of Callas is now being shown, which is natural with the high prices of the true Lilies. The matter is discussed fully and lucidly by William Scott in his excellent book, "The Florists' Manual," as follows:

"Remember one important thing, and that is that the Calla comes from northern Africa, and does not want to be starved in a cool greenhouse. There are several ways of growing them. To begin with they propagate easily from offsets, which you can take off when repotting the plants in the fall. Some plant them out, but if they have much root room they grow too rampant and the flowers are too large to be useful.

"In early May our houses are too crowded to keep the Callas on the bench, and they are taken outside and laid down where they can be covered in case of a sharp frost. The top withers away and for a few months the root is dry. In August we shake off all the soil and start them growing again in 5-inch or 6-inch pots, keeping them in a frame as long as there is no danger of frost, and in winter give them a light house where it is not less than 60° at night. Although almost an aquatic, the soil should be in such condition that the water passes through it freely. For soil use three-fourths of coarse loam and one-fourth of decomposed cow manure. They want lots of syringing and fumigating, for thrips and red spider trouble the leaves.

"If you want to raise some specimens that will require a 9-inch or 10-inch pot and bear three or four flowers at one time, select some of your strongest plants in May and plant them out two or three feet apart in a deep, rich soil, where you can water them copiously in dry times. They lift easily at the end of September and will make great plants.

"The small offsets or bulblets that come off the corm in August can be potted in 2-inch pots and in May shifted into 5-inch and plunged in a frame. They want a copious supply of water during summer. It is remarkable the strong flowering plants you get from these little bulblets in a few months. As previously said, the Calla, when planted out and given liberal space for root growth, is inclined to grow very strong and give few flowers in the dark days. In the bright days of spring you will get lots of flowers from these beds, but the flowers are often unwieldy in size. Growing a good strong corm in a 6-inch or 7-inch pot during winter in a bright, warm house will be found as practical and profitable as any method.

"The Calla tubers will bear resting or allowing the soil in pots or beds to become perfectly dry. Those grown in pots are usually placed outside in June on their sides so that the soil may become dry. The top withers and they are kept in this state till early September, when they should be shaken out, given new soil and started growing, and will soon flower. For this seemingly unnatural rest they are not in the least any the worse in health or vigor.—*Horticulture*, (Boston.)

Time to Dig Gladioli.

To the Editor:

Quite a number of my early planted Glads have bloomed and turned brown down to the ground. Can they be dug now safely so as to lessen the work later on?

A. H. B.

Answer:—Nineteen hundred and twenty was an exceptional season with Gladioli and for that matter other crops as well. Following a rather cold and dry spring season, (it was not dry all over the country but in many places) the weather turned to almost tropical conditions. While the temperature was not excessively high during the day it kept up at night which resulted in the growth of vegetation which was not conductive to strength and vitality. This caused forced growth and premature ripening of some varieties of Gladioli.

You can safely dig any varieties that have ripened their foliage pretty well to the ground and be sure that little or no growth is likely to be lost. Possibly some development of bulblets or cormels will be lost, but little or no growth of the corm can take place after the foliage has ripened.

Moving Gentians.

To the Editor:—

Can you tell me how to transplant Gentians, and time for doing so?

U. B.

Answer—We could have answered this question better if the inquiry had been put in a more definite form. If, however, it refers to the common Gentianella (G. *acaulis*) rather than to the race as a whole, the answer is, that of all the months of the year we have found late September and October much the best for the purpose. About that period new stoloniferous growth is being made freely, and, with soil warmth still existing, with fair supplies of moisture, the plants may be pulled to pieces and transplanted with impunity. The operation is often taken in hand at other times onward from those stated till the end of February, or even later. It will depend upon the locality, soil conditions, and the measure of attention given subsequently as to what success may be achieved. Following planting, cool conditions, with frequent showers or no lack of soil moisture, are necessary if the divisions are to get away quickly and make a good start, hence the drying conditions of spring and onwards are about the worst we know of for the work. Doubtless many thousands of plants are lost annually because purchased in our markets when in flower, planted indifferently, and neglected afterwards. There is no greater mistake. In the early autumn the risks from heat and drought are not experienced. If the plants referred to are big, sward-like masses, wash away a goodly portion of the soil from the roots, when the tufts can be separated more readily. Three or six well-developed shoots are sufficient for a planting piece, and this number, with the heads gathered together compactly on the same level, and held tightly in the left hand, should be inserted well up to the leaves in the soil, and made quite firm. In planting, these are things that really matter. As to soils, the plant succeeds in many diverse kinds, though least happy and frequently all but flowerless in heavy, retentive clay soils. The species revels in loam and leaf soil, is often extremely happy and flowers well in those of a calcareous nature, and not less so in the cool loams over the red sandstone. To very light soils an addition of lime may be made with advantage. —*Gardening Illustrated* (English.)

Late Fall Planting.

While it is admitted that Peonies ought to be planted in September and Irises in July or August, yet we know of some of the best growers who plant as late as the ground can be worked in the Fall, both of these flower stocks. We have had surprisingly good results by planting Peonies as late as December 1st, but it is advisable to cover these late planted divisions. We used for this purpose heavy charcoal bags, but ordinary bransacks would answer. They may be weighted at the corners and should not be put on until real freezing weather comes and they should be removed as soon as the frost is out of the ground in Spring.

Don't forget to say a good word for The Flower Grower in that new catalogue that you are getting out, or planning on getting out. Help your business and the floral business in general indirectly by helping The Flower Grower increase its sphere of usefulness.

THE LILY

Lilies for House and Garden.

No class of plants capable of being cultivated outdoors or pot-grown indoors possess as many charms as Lilies. They stand out conspicuously from all hardy plants and deserve to be grown more extensively in all gardens. Most Lilies will succeed in light, loamy or sandy soil. Decayed peat and leaf mold are desirable additions. The soil should be enriched with well-rotted manure, but fresh manure of any kind should never be used with Lilies. Good drainage is essential, and partial shade desirable. In planting it is a safe rule to set the bulb to a depth three times its height, and it is also desirable to surround the bulb, in setting, with clear sand. A mulch should be given during the winter. When potting Lily bulbs for house culture, use three parts fibrous loam to one part well-rotted manure; with broken crocks in the bottom for drainage. The bulbs are set deep, leaving space in the pot to fill with more top-dressing as roots form above the collar. The pots are stored in a cool, dark place until roots are well formed, when they are brought to the light.

Lilium auratum, is perhaps the most popular of all hardy Lilies for the garden. Its stately beauty is most effective when planted in groups, somewhat isolated from other flowers. They grow from three to five feet high, according to soil and culture, and their waxy blossoms, banded and spotted with gold and crimson, are delightfully perfumed and wonderfully beautiful.

L. *speciosum* is also a magnificent flower, perfectly hardy, its blossoms pure white and also rose and crimson, the variety *Magnificum* being twice as large as the common ones.

L. *Tigrinum,* the Tiger Lily, is also very beautiful, the double varieties being most stately. They produce numbers of bright orange-red flowers covered thickly with black spots, on spikes sometimes six feet high.

The *Crinums* are not grown so commonly, though some varieties are favorities for pot culture. They are not true Lilies, but related to the Amaryllis. They are handsome plants, bearing clusters of delicate blossoms, usually a rich creamy white, sometimes having purple or carmine center stripes. Their sweet perfume will scent a room. They produce very large bulbs, so that when grown indoors they very soon become potbound unless it be of generous dimensions. Some varieties are desirable for outdoor culture with proper protection, but many of them are of tropical origin.

Callas are called Lilies, but belong to the Arum family. They are very easily grown, and we have several varieties to choose from. Their culture is simple, their chief requirements being moisture and abundant fertility.—GERTRUDE SHOCKEY in *Rural New Yorker.*

Lilium testaceum.

There is no doubt that *Lilium testaceum* is one of the most beautiful of the whole genus, with its corolla of a delicate shade of apricot slightly tinged with flesh color, which distinguishes this Lily from all others, its bright orange anthers forming a charming contrast with its buff-colored gracefully reflexed petals. Its origin is unknown, as it has never been found in a wild state, but it is believed to be a hybrid between the Madonna Lily (L. *candidum*) and the Turk's Cap Lily (L. *chalcedonicum*), and it certainly bears some resemblance to these two species, its stature and constitution closely resembling those of the Madonna Lily, while the bright vermillion of L. *chalcedonicum* shows in the delicate tint of the flowers, while it also somewhat resembles the latter species with its reflexed petals. It is supposed to have been first noticed among a batch of seedlings raised at Erfürt in 1846, although it has also been said to come from Japan, though neither of its reputed parents grows there; but reference is made in Dr. Wallace's "Notes on Lilies," that he had actually seen a figure of this Lily among Japanese drawings. The plant grows from five ft. to six ft. high, the flowers being borne in trusses of from six to twelve during July on stiff stems, densely clothed their whole length with linear leaves spirally arranged. It is also known under the names of L. *excelsum* and L. *isabellinum,* but its popular English name is the *Nankeen Lily,* as its color very closely approaches Nankeen dye. It requires similar conditions to the Madonna Lily. The bulbs should be planted as soon as the flowering stems have died down, certainly not after the middle of September, putting them just below the surface in a sheltered position in good loam, preferably not in full sun, and if the soil is not of a calcareous nature lime or mortar-rubbish should be added. They may not make a great show the first year, but once established they should be left undisturbed, when they will increase and form a beautiful mass.—F. G. PRESTON, Cambridge, in *Irish Gardening.*

Water Lilies in Tubs.

Fascinated by seeing some of the newer Water Lilies, I have grown a few in tubs, and I think a note about their behaviour may be worth while. The trouble is that some of the stronger-growing new varieties soon cover the water in a small tub, such as that made of the half of a petroleum cask, and they do not flower so well if the sun cannot reach the water directly. When the leaves get so thick and crowded, as they often do, the flowers also become crowded among the foliage, and do not look so well. It is an advantage to divide the strong-growing *Nymphæas* to single crowns every year or two if grown in tubs, but it is a distinct help to bigger plants to thin out the leaves pretty severely. I got this hint from an amateur of long experience, who had cultivated Water Lilies in tubs for some years. The smaller Laydekeri varieties do not need this.—*Gardening Illustrated* (English.)

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½ in. to ¾ in.	40,000	100,000	5
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FORMERLY

THE MODERN GLADIOLUS GROWER

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The History of the Rose in America.

[Written expressly for The Flower Grower.]

BY CHAS. E. F. GERSDORFF (District of Columbia.)

THE FIRST truly American Rose, of which there is any record, was planted by George Washington on his estate at Mount Vernon and was named by him in honor of his mother, *Mary Washington.* To this day, the same Rose, of vigorous climbing habit, adorns the Mansion with its beautiful and abundant bloom each season. Unfortunately its parentage is not known.

At some time before the year 1810 two Roses—Rosa *chinensis* and Rosa *moschatus* were planted in the garden of John Champney of Charleston, S. C. From these he raised a seedling which became the ancestor of a long line of beautiful Roses of semi-climbing and climbing habit, but unfortunately not hardy enough to stand our northern winters. It was named *Champney's Pink Cluster.* A few years later an offspring was raised by Philip Noisette of the same city who named this *Old Blush.* He sent it to his brother in France who gave it the class name of Noisette in honor of the originator, probably not knowing at the time the honor really belonged to Mr. Champney. But for this error all Noisette Roses would be known as Champney Roses.

Seemingly no new Roses of merit were brought to light during the ten years previous to 1824. From this date to 1843 the new Roses were of the classes then known, these being the bourbons, chinas, teas, bengals, Austrian briars, Lawrencianas and Scotch hybrids. In 1830 a supposed hybrid between the Austrian briar and Rosa spinosissima, named *Harison's Yellow,* was sent out by Harison of New York, a Rose which to this day may be found in gardens all over the world. The year 1843 saw the introduction of a new class of Roses, seedlings of crosses between our beautiful native prairie Rose and existing types, by John Feast of Baltimore. These seedlings combined the natural vigor of the prairie Rose with blossoms of greater substance and varied coloring. The ruggedness of these seedlings made it possible for northern gardeners to enjoy Roses on trellises as did their southern friends with the more tender Noisettes. A few other growers devoted some attention to this type.

HYBRID TEA ROSE—*RADIANCE.*

Originated by John Cook, of Baltimore, Md., and introduced by Peter Henderson & Co., New York, in 1908. It is a seedling of *Enchanter* x *Cardinal,* two hybrid teas originated by Mr. Cook in 1903 and 1904 respectively, whose parentage was *Mme. Caroline Testout* x *Furon,* and *Liberty* x unnamed red seedling. *Radiance* was awarded the Silver Medal of the American Rose Society in 1914.

Since 1843 new Roses have been brought into favor in ever increasing numbers, covering all the known types of the time. In addition to the types named before, the following were being introduced: Hybrid Perpetuals, Damask, Noisettes, Polyanthas and Setigera Hybrids. The next new departure, and a notable one was the creation of the first hybrid tea in America by John Cook of Baltimore, the gentleman who to this day is still enriching our gardens with improved varieties of this wonderful class. The first American hybrid tea was sent out in 1888. In the same year Jackson Dawson gave us the first hybrid multiflora, obtained by crossing the multiflora Rose with *General Jacqueminot* twice. It was named the *Dawson.* A year later Manda brought out his first hybrid wichuraiana, a cross between the wichuraiana and a tea Rose. Subsequent hybrids of these two classes were made with other types of Roses as well as with teas. Besides Manda and Dawson, Jackson and Perkins, Van Fleet, Walsh, Hoopes Bros. & Thomas Co. and others contributed to this class, and some are still at work turning out improved kinds. American efforts to date have in the main, been confined to these three classes, though some attention has also been given to the tea, the polyantha, Pernetiana, hybrid perpetual and the older types of Roses.

Much work has also been done along the line of producing new hybrids. To date the following have been sent out: Hybrid rugosas, by Van Fleet and others; hybrid laevigatas and hybrid moschata-odorata giganteas by Franceschi and others in California; hybrid polyantha-ayrshires by R. & J. Farquhar & Co.; hybrid teapolyantha by Van Fleet; *Max Graf*, a natural hybrid of rugosa x setigera; hybrid humilis-rugosa, originator not known; and a hybrid spinosissima by Elliott Nursery of Pittsburgh. The dwarf polyanthas have received some attention, a few very fine varieties being sent out since 1900. Some Roses of the pernetiana type have been sent out by growers in California and Oregon.

John Cook, of Baltimore; M. H. Walsh, of Woods Hole, Mass.; E. G. Hill, of Richmond, Ind.; Alex. Montgomery, Jr., of Hadley, Mass.; Howard and Smith, of California, and Clarke Bros., of Oregon, ably assisted by a host of others, among whom are a number of interested amateurs, are working towards the production of ideal Roses for American gardens. Among the amateurs there is Capt. George C. Thomas, Jr., whose ideal is the creation of Roses of semi-climbing and climbing habit and everblooming like the hybrid teas. Some of his productions which are quite near his goal are now being disseminated. We are also indebted to Capt. Thomas for the "Practical Book of Outdoor Rose Growing," in which the results of exhaustive tests of many Roses are given, many of the Roses being illustrated in color.

The time is not far distant when Roses, rugged of growth and foliage, and bearing flowers of great beauty, will be found adorning the grounds of the farmhouse, Roses which will stand up and do under most adverse conditions. For these we will owe thanks to the untiring efforts and hard work, but loving withal, of our beloved friend of the Roses—Dr. W. Van Fleet. On his place at Bell, Maryland, may be found many beautiful hybrids obtained by crossing numerous wild species, natives of America and foreign climes, and hybrids of these with many of the existing types of Roses. Some of the species used in these experiments are the hugonis, gentiliana, bella, Helenae, Moyesii, Engelmannii, Fendleri, rugosa, wichuraiana, spinosissima, sertata, Jackii, omeiensis, banksiopsis, saturata, Sweginzowii, multiflora cathayensis, filipes and multibracteata, and many others. He has hybrids which cling closely to the ground, thorny and rugged, bearing large to very large single to double blossoms and very fragrant. There is another which has foliage stems and blossoms of the same fragrance, a fragrance likened to that of the azalea. One there is which grows into a tall symmetrical bush bearing continuously blooms, small and of the form of scotch pinks. Others suitable for trellises, fences, hedges, etc., ranging in color from white to red, and to yellow, and tinted ones, too. Some for solitary planting and some for the shrubbery. With all that he has accomplished, he is not yet entirely satisfied; he is ever striving, ever getting nearer the ideal of the Roses for the farmyard and roadside.

Just about the time that the three great classes of American Roses were first disseminated, a society whose aim has ever been "to increase the general interest in the cultivation and improve the standard of excellence of the Rose for all people," was organized by a small group of Rose lovers and growers. Their trials and tribulations were many. They did not falter. Soon the society started to grow. Slowly at first, then with leaps and bounds, until at this day the American Rose Society numbers nearly 3,000 members. They are still coming in. There are good reasons for this. It is through the good offices of the Society that test gardens have been fostered in various parts of the country. These gardens serve to educate the people to love the Rose, and to show them how they can have Roses of their own. They also show what varieties are best for the locality. Another fine reason is this. Every year the Society publishes an Annual, cloth bound, printed on excellent paper, and containing many fine halftones and color plates. The articles are instructive and very interesting reading, each volume being a ready reference book. All real lovers of the Rose should be identified with this live and growing organization.

A complete list of all the Roses known to have been originated in America, compiled by the author, is published annually in the American Rose Annual. In this list is given the name of each variety, the class, the originator and date of introduction, and the parentage of each Rose, if known.

THE DAHLIA

Timely Hints about Dahlias.

Garden makers in this section are busy taking up their Dahlia and Gladiolus roots. It is interesting to watch the way in which they do it. The usual plan, apparently, is to loosen the ground slightly, then to grasp the stalk firmly and pull the root out of the ground with a sudden jerk. Now this is a fine way to serve the interests of commercial Dahlia growers, for in most cases at least half the necks on each bulb are broken, with the result that the attached tubers are rendered worthless. The neck is that part of the tuber which joins the main stalk, and it is very readily dislocated. When the professional growers dig their Dahlias they either go through the field with a deep set plow, loosening the clumps without throwing them out, or else they have their men work in pairs. In either case the ground is loosened around the roots so that they may be lifted out with a fork, and without damage to the tubers. The same plan should be followed in the home garden.

Drying Off.—Another mistake often made is to leave the clumps exposed to the sun for a day or two, or even longer. This seriously impairs the vitality of the roots, because much of the moisture is dried out. After two hours in the open air the clumps should be removed to the cellar. Of course the stalks will be cut off before the roots are dug, and they should be cut a few inches above the clump. I have seen long-handled pruning shears used for the purpose. The stalks contain a peculiar acid, which has a bad effect on the hands of the men who spend a day or two digging Dahlias. It also has a bad effect on the clumps if not allowed to escape. It is important, therefore, that all clumps be inverted when they are stored, the stumps of the stalks being placed downward. This practice alone will go far towards preventing decay during the winter.

Difficulties of Storage.—Now it is an unfortunate fact that some of the finest of the Dahlias are the most difficult to store. For some years *J. B. Smith* was put forth as a fine variety, but growers found that keeping it through the winter was an almost impossible task, unless one had unusually good facilities. *Geisha* is also a disappointment in this respect. This wonderfully brilliant, Peony-flowered Dahlia has come to be among the most popular of all varieties. Yet the stock never gets very large, and amateurs lost it year after year, for it is a difficult Dahlia to carry over. Garden-makers who have only a little money to invest in flowers should take pains to learn about the keeping qualities of the varieties they propose to buy. Red Dahlias are the most persistent of all. They will survive under conditions which cause the loss of most other kinds, which is the best explanation of the claim so often made by beginners that their choicest varieties revert in a short time to common red kinds. The truth is that a Dahlia grown from a tuber will invariably be like its parent. It is different, of course, with Dahlias grown from seed. They are likely to develop almost any form or color.

Dahlia Types.—I have been amazed this season at the rapid spread of the Dahlia craze. You find Dahlias everywhere now; in city back lots as well as in farmhouse dooryards, and on the approach to almost every town you will come across some man or woman who has a field of Dahlias where orders are being taken for bulbs to be delivered the next spring. Many growers are going in especially for some of the newer kinds, including the collarette, duplex and single types. The collarette Dahlias have the advantage of being remarkably good keepers when cut, which unfortunately is not true of the single Dahlias. On the whole, the decorative Dahlias and the pompons are the best for cutting, and the kinds which should be grown most freely if one is selling cut flowers at retail or to a flower dealer. This, by the way, is a line of work which can be developed in many small towns. Florists are coming to use Dahlias in increasing numbers, and will often buy them from local growers if the right kinds are offered. Most of the pompons are excellent for decorative work, and among the best of the decorative forms for this purpose are *King of the Autumn*, *Maude Adams*, *Delice*, *Lyndhurst*, *Madame van den Daele*, and the new *Gene Kerr*.—E. I. Farrington in *Rural New Yorker*.

Professor D. Lumsden, who for the past six years has been Assistant Professor of Floriculture at Cornell University, has resigned to accept a position as Professor of Horticulture and Landscape Art, at the Walter Reed U. S. Army General Hospital, Washington, D. C.

Mr. Lumsden will also have charge of the agricultural reconstruction work at the hospital.

Naming Flowers.

BY WILLARD N. CLUTE.

[*Written expressly for The Flower Grower.*]

THE DESIRE to see one's name in print is a human failing. Everybody is familiar with the penchant of the common herd for scrawling their names where they may be seen of all men and something of the same feeling seems to have entered our systems of floral nomenclature and to have manifested itself in the naming of beautiful flowers after mere nobodies. I do not for a moment mean to imply that even a majority of those for whom Irises, Peonies, Tulips and many another are named, are nobodies, but I do mildly suggest that many of them should not have been thus honored, or if they were, that a different name should have been selected before asking the public to accept the new introduction.

Often the namer of new varieties is possessed of the worthy desire to make his family famous without considering the rights of the public in the matter. If the family happen to have been christened with poetic or musical names, well and good; but if not, the result is not pleasing. Still worse, the family surname may be one that is so common that additional specifications are necessary to distinguish the one for which it is named and we then have such abominations as "Mrs. John Henry Smith," which carries the suggestion that, perhaps, "R. F. D. 17" should be added. The name of Smith is an honored one and as good as any for a surname, but this is no reason for adding a "Mrs. John Henry" to it and passing it on to a helpless flower. When somebody outside the family gives a particularly atrocious name to a new form it may be charitable to assume that the head gardener is desirous of pleasing his boss, that an industrious foreman may be trying to ingratiate himself with his lady love, or that it is just a plain lack of appreciating the fitness of things. Most reprehensible of all is the practice of naming new varieties after one's self. This doubtless originated from perceiving that many botanists have flowers named in their honor. In every case of this kind, however, the name was given by someone else. It has always been considered rather lacking in delicacy for anybody to throw bouquets at himself. Besides the grower of flowers ought not to compete with the makers of shoes, chewing gum, cough drops and face powder. If flowers are to bear the names of people at all, it seems only fitting that the people for whom they are named should be of considerable eminence. It might almost be insisted upon that no name is sufficiently eminent if it has to be distinguished by a string of descriptive words. The names of Darwin, Edison, Washington, Marconi, Burbank, Poe, Gladstone, Lincoln and many others that will at once come to mind as illustrations of those that need no distinguishing marks. Occasionally, of course, the name is so common, or it is so universally associated with a title, that two terms are necessary as President Wilson, Queen Alexandra, Baroness Schroeder. But however much we may feel like honoring a man, we ought to resolve firmly not to do it by naming a flower after him if his family patronymic happens to be some of the unpronounceable names that come to us from abroad. Such names actually hurt the sale of the plant. There are a good many Peonies, Irises and Tulips that I would not have in my garden if I had to call them by the uncouth names they were originally loaded with.

Since flowers must have names, the captious critic may be asked what he would suggest in place of the catalogue of one's family and friends. To this he might reply that flowers being characterized by grace, perfume and color, in short, beautiful, are deserving of names in harmony with these attributes. They should not be named for ugly objects, nor for objects that suggest disagreeable ideas. In most cases, flowers are named for the objects whose qualities they suggest. There is a wide range of such objects to draw from with names that are at once musical, beautiful and appropriate. A few are suggested in the following list:

Natural Objects and Phenomena.

This is by far the largest group, including as it does other flowers, the animals, heavenly bodies, the seasons, rain, snow, clouds, wind and the like. Examples are *Red Cloud, Butterfly, Soleil d' Or, Blue Jay, Canary Bird, Dawn, Sunset, Moonlight, Silver Star, Snowball,* and *Midnight.*

Mythology.

Gods, demi-gods, muses, dryads, fairies, gnomes, and heroes. Examples: *Aurora, Adonis, Hector, Ganymede, Hebe, Fairy, Pixie, Hercules,* and *Apollyon.*

Authors, Statesmen, Leaders.

Examples: *Sappho, Ossian, Leonidas, Rembrandt, Hannibal, Tamerlane, Mozart.*

Technical Terms Suggestive of Qualities.

Examples: *Delicata, Innocenza, Purpurea, Pallida, Lurida, Violacea, Lavendulacea.*

Titles.

King, Emperor, Knight, Prince, Queen, Chief, and the like. Examples: *Khedive, Purple King, White Queen, Black Prince,* etc.

Women's Names if Musical.

Examples: *Cordelia, Jessica, Kathleen, Margaret, Blanche, Honora.*

Miscellaneous Terms.

Caprice, Oriflamme, Saturne, Bridesmaid, Gypsy, Celeste.

The list is not intended to be complete but it is submitted that with such numbers to ring the changes upon and the great numbers of similar value that are not included, there is little need to give to a new introduction a name that is either incongruous or lacking in beauty.

The Glad Philosopher's Musings.

"Of making many books there is no end," wrote Ecclesiastes, the preacher, many, many years ago, and so there seems to be no end in these latter days of the making of books by those devoted disciples of the garden who are gifted with literary ability. One of the most charmingly written books that has come to my notice was written several years ago by Frances Duncan, entitled "The Joys of Gardening," and was intended to serve as a "first aid" to the beginner. To read any part of the first chapter of this book, under the caption, "In praise of Gardening," is to want to read more. In this chapter, the author, who was one time garden editor of the *Ladies Home Journal*, says:

> "One of the sweetest characteristics of a garden—chiefest, I think, of its '1,000 delights'—is that its charm is wholly unrelated to the amount of money spent upon it. The simplest of little gardens may have more of this lovely and endearing quality of charm than the most pretentious of estates. For garden art for the sake of aggrandizement always misses charm. The display may have cost thousands, but if the purpose is to make as startling an effect as possible for the astounding of the visitor or passer-by, rather than the pleasure and happiness of the owner, such gardening must always miss charm. Like the prayer of the pharisee, it 'has its reward,' and is seen of men. The kingdom of art, no more than the kingdom of heaven, is entered into that way."

There are occasional blunders found in the writings of even some of the best authorities. In one of Mrs. Ely's excellent garden books the author advises raising Peonies and Irises from seed when one wishes to increase his plants of some variety of which the name is not known, and is therefore not able to order others like it. This advice might be valuable if Peony and Iris seedlings could be depended upon to come uniformly true to the color and habit of the parent, but they do not.

Addison's wise observation that the real substance of any bulky volume can be put in a small pamphlet is well realized by anyone who has ever started to wade through Luther Burbank's voluminously padded work in search of some of the enlightenment promised in the prospectus.

The Glad Philosopher.

We have numerous letters complimenting The Flower Grower. If these compliments continue we will ourselves begin to believe that The Flower Grower is pretty good.

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"*He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers.*"—ZOROASTER.

Reading and Education.

Education is not mere schooling. It is the training and developing of one's individual faculties and gifts. This may be done more thoroughly through acquiring the reading habit. It may be safely said that in not a single case has a man made a notable success of any particular life work without continuing his studies after leaving school or college, through the following up of a consistent and persistent but perhaps not necessarily systematic course of reading. There is little danger that one will read much of a seriously detrimental nature. Most reading matter is of an educational and helpful nature and even the daily papers may be of great service in educating along general lines.

The reading habit should be acquired at an early age and the young should be encouraged in every possible way to become readers. There is no objection to light fiction for the young if of a harmless character as this encourages the reading habit and as the individual becomes older reading of a more substantial character will naturally be taken up.

MADISON COOPER.

Has Gladiolus *America* Deteroriated ?

An item from the *Florists' Exchange*, which will be found on page 179, opens a very interesting subject. Do Gladioli or other flowers deteriorate? We imagine that this subject could be discussed pro and con by many different people and no conclusion arrived at. It is our impression that certain flowers do deteriorate unless they are kept up by careful culture and selection. In fact, we believe that most anything in the vegetable kingdom will do this. Cultivation under average or inferior conditions leads to natural deterioration. It could not be otherwise.

In case of Gladiolus *America*, which is under discussion, is it not more probable that the rapid improvement in quality of the newer varieties of Gladioli has been such during recent years that *America* has been left in the rear? A good spike of *America* is a fine thing, but there are so many stubby and short spikes now that it gives one a bad impression of *America*. It is possible that Gladiolus growers are not as thorough and painstaking as they were when *America* was first introduced, but force of circumstances probably accounts for neglect in many ways, shortage of help being the most important.

At present no one in particular is interested in keeping Gladiolus *America* up to its highest quality. It is grown in large quantities in a wholesale way and not given the best of culture. Naturally under these conditions it will deteriorate. The same would probably happen to most any variety under the same circumstances.

Advertising.

Some growers of flower stocks do not appreciate the necessity of advertising during prosperous times. They seem to feel that it takes all their energy to fill orders, and that it is a waste of time and money to advertise for more business.

This is a very erroneous conclusion and it will be noted that those concerns who advertise continuously and consistently regardless of business conditions and regardless of whether they have plenty of orders or not, are the ones who continue to be leaders. Heavy advertisers who later become small advertisers or no advertisers at all, are practically admitting that they cannot keep up with competition, and it is the history of business that younger and more progressive concerns who advertise judiciously, push out the older and more conservative ones who do not or will not understand that a successful business built up by the assistance of advertising, must continue to advertise in order to retain its leading position in the trade.

Spasmodic or irregular advertising is of doubtful value, but continuous and persistent advertising is seldom a poor investment. Any consistent judicious plan if followed out is more than likely to prove satisfactory to the advertiser. The successful advertiser is the one who keeps at it.

MADISON COOPER.

New Varieties of Flowers.

The avalanche of seedlings which Mrs. Austin mentions in her Talks this month is worthy of consideration. She points out that those who produce seedlings should keep themselves posted on what is being done by others. It is surely little short of folly for any hybridizer to attempt to introduce new varieties without knowing what others have done, by maintaining a test plot for the trying out of new varieties. Some hybridizers are so busily engaged in producing thousands of new things each year that they do not even attend the flower shows. We have some contempt and more pity for any such. What we say does not apply to Gladioli only, but to the producer of seedlings in any branch of floriculture. Don't try to introduce new varieties unless you know what is already on the market of a similar character. Ignorance cannot be tolerated in this connection and it will not "stand the test of time."

"The great task of pioneering and bringing the land under the plow has, for the most part, been accomplished. The people of this nation are no longer content with the attainment of the three primary necessities—food, clothing and shelter. They demand in addition that the food shall be the product of many climes; that the clothing shall befit their station and work; and that the shelter shall not only provide bodily comforts but that it shall be surrounded by trees and shrubs, not alone for the shade and protection they offer, but for the pleasure they afford as they express life's great drama in the passing of the seasons."

—(Sec. of Agriculture Meredith in *The American Rose Annual.*)

Odds and Ends In the Garden.

MICHAELMAS DAISIES.

With the tingle of the first frost color comes into the lowlands, maples blaze and are joined by the scarlet oaks and yellowed chestnuts until the whole countryside seems aflame; but as nature glows our gardens seem to grow dull and sere for only their hardiest occupants endure the coming winter's breath. Now it is that our gleaming Poppies, our Four O'clocks and Cosmos desert us, we may still have orange Calendulas, or gray white clouds of Alyssum, but for effect we must go to our hardy Asters even more than to the less enduring perennials, the Japanese Anenomes and Chrysanthemums.

Yes, Asters, our native Asters and their progeny, Asters that may clothe our roadsides or trim our open woods, and yet Asters that in our gardens are probably known by the English name of Michaelmas Daisies and in their named varieties are of foreign birth. Surely a true reflection of human nature!

I would not have you neglect them in their native state; there are sparse clustered white ones in the dry woods, heavy headed panicles of tiny tinted lavender blooms more in the open, coarse leaved, big flowered things in the marshes, at this September season aster color everywhere. For each you may find a place if your garden be not too proper and among the cultivated forms are flowers for the most conventional setting.

Possibly because they do not like my garden clime, or more probably because they do not prove good competitors with the more colorful Phlox, the *amellus* varieties with their big but slightly clustered flowers, are not much to my liking. They are rather dwarf (two feet), a little stiff, and I rather class them with *Catananche* and *Erigeron* as but second rate. With the *cordifolius* varieties we get a three to four foot growth with little attention as to soil. Pestiferous seeders they are, but in early season their tuft of smooth, heart shaped leaves is not obtrusive and later what could be more engaging than their many branched heads literally smothered by the myriads of flowerets. Typically the petals are pale lavender, the clustered stamens a warm buff that purples with age, but there are many variations of tone among the seedlings, some white with tinged centers, some blush, but so subtle is the coloring that one must look twice and yet again to differentiate. It is as a mass that I like them best, self-sown on a sunny slope beneath a maple where little else will thrive.

Ericoides is not unlike in flower effect, though a purer white, but it has a less tufted growth, the stalks are less bloom-laden and though its wiry stems and fine heath-like foliage have charm, the habit is rather weedy. Less tall though similar are the *vimineous* varieties but the very names of two varieties *Delight* and *Lovely* are not to be resisted.

With Aster *Novi-Belgii* we reach the climax, not of beauty, but of named varieties, with flowers of good size that form billows of color; three to five feet high they may grow and whereas with most Asters one may appreciate the character of each lovely stalk, here there is a smoothly rounded mound of bloom. They are ideal for a well-kept garden, but they should be often, almost annually, replanted. The first year in rich soil they are superb, the second not much to brag about and the third the least said about them the better. *White Queen* I do not care for, Aster whites are so less white than that of Phlox, but *Feltham Blue*, the pale lavender *Glory of Colwall*, rosy lilac *Nancy Ballard*, *Perry's Pink* or the rosy *St. Egwin* and many more are fine. One of a kind will, however, give you many within the year.

The hybrid *Beauty of Colwall*, the first double to be raised, and *Climax* are even larger growing and lovelier. I suspect that they have some of the blood of the *New England* Aster which for richness of color is unsurpassed. This is a native of our meadows and dislikes drought but is happy enough to sow itself in our gardens and among the seedlings one may find the clear pink of *Lil Fardell* or the blue tone of *Ryecroft Purple*. The petals are very narrow but numerous and have a silky sheen that is quite irresistible. The growth tends to be a little clumsy, the flowers held on a heavy, leafy stalk, but if one lets them sprawl among other growths the effect is not quite so stiff.

I have left until last my real favorite, *laevis*, this is for decoration rather than for mass, it is smooth leaved, slender stalked and the loose sprays of mauve, Heliotrope, or Lilac blooms are lightly poised, the flowers are of good size and full rayed, the whole growth has a finish and proportion that just suits my ideals. As a grower it is not too rampant, yet it is tall, not particular as to soil and when one sees its lavender intermingled with the scarlet of sumac, words fail completely.

The *Japanese* Anemones bloom in September also, with me they are a little tender, but I have but just seen them in their perfection. A broad path beneath a simple cedar arch lightly clothed with Roses and the colorful *Virginia Creeper* and on either side a solid bank of these Anemones, waist high and dazzling in their whiteness. You will find them under many names and though the rosy ones verge on that seductive shade that we find in Gladiolus *Ashes of Roses, Whirlwind*, a snowy white with a double row of petals, is sufficiently fine for anyone.

You will wonder why I pass by the bronze and yellow Chrysanthemums. They are so late with me that I give them a special border sheltered from the early sun where they may be apart from the remnants of the summer's bloom. With berried shrubs and low evergreen perennials one would not guess that summer was past and winter almost here. R. S. BARRE.

Hollyhock Blight.

BY BERTHA BERBERT-HAMMOND.

[*Written expressly for The Flower Grower.*]

Until comparatively a few years ago, cases of the destructive fungus disease that attacks the Hollyhock were almost unheard of in this country, though in England the ravages had become so widespread and ruinous, that the growing of the stately Hollyhock had to be practically discontinued.

When this troublesome disease once gets a firm foot-hold, it is about impossible to effect a cure. In its early stages, it may be controlled by constant vigilance removing and cremating all parts of the plant that show the slightest signs of the disease, and spraying the growing plants with Bordeaux mixture that is not strong enough to injure the foliage. If this remedy does not check the spread of the disease, the surest and most effectual method is to burn all Hollyhock plants and abandon their culture for a few seasons, beginning anew in a year or so and bearing in mind the old adage, "An ounce of prevention is worth a pound of cure."

In the garden, as elsewhere, cleanliness is essential. In autumn gather up and burn old Hollyhock leaves, stalks and other refuse that may afford winter protection to the organisms of this disease. Where the blight has once been in the garden, it is a safety measure to remove and destroy in the spring all but the very heart of the rosette of Hollyhock leaves that may have come through the winter unharmed, so as to be certain of annihilating any of the disease spores that may be lurking upon them prepared to infect the new leaves as they appear.

It is said that barnyard litter may be in a measure responsible for the transmitting of the fungus, but our old acquaintance, the common Mallow, that bears a tiny, pinkish blossom not unlike a diminuitive single Hollyhock flower, and produces the little round seed-heads known in the parlance of childhood as "cheeses" has been pronounced guilty by the agricultural powers that be, of being the chief offender in harboring the rust fungus that seems so partial to the Hollyhock. It should, therefore, like the old barberry bush, which shelters the organisms of the grain rust be doomed to eventual extermination. This low-growing, humble weed however is most difficult to rout. It must be uprooted and the entire plant burned. As a precautionary measure, it is the part of wisdom to see to it that the mallow is not allowed to grow within a radius of one hundred feet or more of the Hollyhock border, and so prevent the spreading of the disease which blights this desirable garden plant and proves so difficult to eradicate.

In these days of difficult labor conditions the hardy flowers are in greatest demand. Hardy flowers require some labor, but not as much as the tender sorts which must be lifted in the fall.

WAYSIDE RAMBLINGS

[*Written expressly for The Flower Grower.*]

ASTERS AND GLADIOLI ON A CITY LOT.

As I have been a reader of THE FLOWER GROWER for the past year, and have read what others have done and what beautiful gardens they have had, I want to tell the readers what I have done this summer:

I have been an Aster grower for several years, and this summer I made a specialty of *Heart of France, Silver Rose* and *Enchantress.* They are the largest and most perfect Asters I have ever seen grown anywhere. I sold them by the hundreds, and the pleasure of cutting them and seeing them in bunches is enough reward for all labor that I put on them. Each time I cut them I would say, "How beautiful you are!"

This year is the first time I have tried to grow the Gladiolus. Last winter I became interested in the culture of this flower and read all that I could secure about its habits of growth. I then purchased one thousand bulbs. They gave us wonderful bloom, some standing five feet high with flowers four and one-half inches in diameter. I could not describe the pleasure we took with them every day, watching them put forth their beautiful bloom. We sold them all for one dollar per dozen, so the bulbs cleared themselves the first year.

People came to visit our flower garden and the praise they gave the flowers gives us more courage to plant more next year. Now we are planning for our early spring bloom, planning for the different designs. We are going to have Crocus, Hyacinths and Tulips, which we grow by the hundred, and it is a delight to see them in early spring.

I only wish that this little description of what I have done on one lot would help create a desire for growing of flowers for the beautifying of their homes among the readers of THE FLOWER GROWER.

MRS. F. MEIER.

THE LAST OF OUR HARDY ASTERS OR MICHAELMAS DAISIES.

The first flowers of Aster grandiflora opened this morning (Oct. 9.) I wonder if the readers of THE FLOWER GROWER have seen this most beautiful of all the Michaelmas Daisies. Very soon there will be plenty of flowers and swarms of bees to collect the honey. This old but rare variety is entirely distinct from any other kind, and has the largest individual flower, of a deep bluish violet with a pretty yellow center.

This variety is perfectly hardy. During the last exceptionally severe winter I lost out of 2000 plants, in the open field without protection, not more than fifty. Light frost does not hurt the flowers. They will continue to bloom during October and November.

For the Northern States I would advise to dig the plants with ball of earth and pot them (Sept.); they look very pretty in connection with Chrysanthemums in a greenhouse or conservatory.

FRANK KOEHLER.

I HAVE BEEN "FROM MISSOURI" ABOUT IRISES.

A flower lover out on the Pacific coast writes me that he has read so much about the beauties of the modern Iris that he wants to see for himself just what kind of a flower the best Irises are. A dollar is enclosed for me to make a selection of varieties that will convince him that the flower is worth growing. My correspondent states also that he is from Missouri. I have been in the "show me state" and believe that I can take my friend into camp. I wanted to be sure of my game; so the ex-Missourian has been given generous measure; if I remember aright the following varieties were selected as some of the finest at a moderate price: *Madame Chereau, Palida Dalmatica, Rhein Nixe* and *King of Iris,* varieties that all judges of quality would agree are among the finest. I will wager that my friend will surrender to the charms of the Iris, just as Mr. Reading has done and Mr. Auten will eventually do and people in my own community also are doing. It was because of the loss of time incurred by some people in not knowing whether they liked the Iris or not, that I have wandered out of the beaten path and have attempted to add something new to the Iris situation by urging in my catalogue to love the Iris. I believe that most of its readers will think that my sojourn in Missouri did me good.

H. W. GROSCHNER.

PHLOX BLIGHT.

In the Sept. issue of THE FLOWER GROWER, I noted "Mrs. D. L. B's" appeal for help for her perennial Phlox.

Mine was so badly blighted this summer that I finally sent specimen stalks to the Connecticut Agricultural Experiment Station at New Haven, and received the following reply:

"The Phlox has been attacked by one of the mites belonging to the red spider family, having the scientific name *Tetranychus bimaculatus* Harvey.

"This mite may be controlled by spraying with a contact insecticide, such as Black Leaf 40 at the rate of two teaspoons to a gallon of water, to which a small quantity of soap has been added to aid the mixture in spreading on the foliage.

"In some recent experiments against mites, common laundry soap and water at the rate of one pound dissolved in eight gallons of water appears to be as effective as anything we have tried. It would be well to repeat the treatment in about ten days, as these sprays do not kill the eggs that may be present."

I have wondered if it would be possible some time in your columns to give the pronunciation of many of the Iris names, also Phlox. I hear them pronounced in so many ways, and often wonder which is right.

FRANCES R. IVES.

IRIS—CATERINA.

I cannot agree with our capable Secretary in thinking that the Iris *Caterina* should be "coddled." It needs coddling sadly to be sure, but it does not deserve it. I have tried out a quantity of this variety on different soils and have decided that *Caterina* is an Iris that should be gotten rid of for various reasons. It appears that because this variety is so susceptible to root rot, there is not much healthy stock of it in existence. Once affected it never becomes free from the disease. This may account to some extent for the fact that *Caterina* is such a slow grower; it evidently cannot outgrow this disease as some varieties would. My own observations are confirmed by other growers. One prominent and large grower in Pennsylvania has told me that he could not grow *Caterina*; another grower in Ohio writes me that *Caterina* is "no good." I have been informed by others that *Caterina* does not thrive for them. It is also too tender for the colder sections of the country, and for general cultivation over the most of the country it is a waste of time trying to grow *Caterina.* As to coddling it, I should say, "Fiddlesticks."

H. W. GROSCHNER.

ORIGINATORS OF GLADIOLUS VARIETIES WANTED.

Can any readers of THE FLOWER GROWER give me the names of originators of the following list of Gladioli?

Czar Peter
Glory of Holland
Hohenstaufen
Master Wietse
Peacock
Conspicuous (Blue)
Catherina
Intensity
L'Immaculee
Liebesfeuer
Mauve Queen
Pride of Hillegom
Prince of Wales.

THOMAS M. PROCTOR.

We believe that *Intensity* was originated by H. H. Groff, Simcoe, Ont., and introduced by Arthur Cowee, Berlin, N. Y.—(Editor.)

Florists in France Net Big Profits.

Violet culture in this country has received serious setbacks in the past few years by reason of the coal shortage, combined with unusually severe winters, but French florists seem to have discovered the secret of raising these blue eyed harbingers of spring despite these same handicaps.

Even when facing a fuel shortage almost chronic, and handicapped always by the paralysis of the glass industries throughout France which must continue until the dismantled factories are rebuilt, the florists have undauntedly pursued their vocations. This year the Paris boulevards have blossomed with a wealth of color and fragrance reminiscent of the gay ante-bellum days.

The flower car, trundled through the fashionable and most frequented streets, is the preferred method of putting the florist's merchandise on sale in French cities and towns. Carnations, Roses, Lilacs, Violets and Gardenias are the favorites overseas, as in America, and now that France is finding herself again, the little shop girls are once more among the florists' patrons, for the Gallic love of beauty is not confined to any class, and the French woman, no matter how humble her station, regards the posy as a necessary adjunct to her new toilette, even though every stitch of it has been set by her own hands in material made over half a dozen times. Everyone patronizes the florist in La Belle France.

Scarcely any other country under the sun, therefore, derives so large a profit from horticulture. Whole districts are given over to the cultivation of a particular flower, notably in the case of Perigny, sixteen miles south of Paris, on the Yerres River, where, within sight of historic Fontainebleu Forest and the old palace built by Francis I, a whole village is entirely given to Rose culture.

The American Red Cross has found a way to combine economy with health conservation by establishing there a colony of orphans from the invaded districts. As these emaciated little waifs renew health and strength in the sweet country air of the beautiful valley, they lend their services to the gardeners in the healthful occupation of tending the flowers. Even the war failed to destroy the Rose industry of Perigny, the women and the old men carrying on the work when the young men took up arms for their country, and to-day the Roses of Perigny are fast regaining their pristine glories, as queens of the Paris flower markets.—*Park's Floral Magazine.*

MRS. AUSTIN'S TALKS

[*Written expressly for The Flower Grower.*]

Gladioli that Stand the Test of Time.

THE PAST SEASON has brought to my attention an unusual number of new seedling Gladioli, most of which were very good and would, a few years ago, have been pronounced worthy of naming. This avalanche of seedlings is only further proof of the increasing interest in this wonderfully responsive flower, and while we should in no way check or cool this enthusiasm, it is advisable to urge the importance of keeping in mind such a standard of excellence that the variety produced, to be worthy of naming, must possess qualities that will fully equal or surpass our present standard and hold good in the test of time. In order to be in a position to judge whether one's own seedling possesses real merit, the producer should compare it with the latest and best new productions of the various classes, or the one in which he believes his seedling belongs. It is always advisable to attend the exhibitions where comparisons may be made, but as this is not always possible, a good way is to grow at least a few of the new and desirable ones in one's own garden where comparisons may be made in their various stages of growth.

It has been my pleasure to have a trial plot for many years. I first called it my "pet plot" because I grew in it only varieties that especially pleased me. I recollect one by the name of *African*, a very dark red with snow-white throat, a small flower but it seemed large to me at that time. Here also grew *Marie Lemoine* when I first became acquainted with it, which I think was 27 or 28 years ago. And *America*, even before its debut as *Reuben H. Warder*, for I bought it in mixture, reigned in my trial plot as *Big Pink*. After that variety was sold to John Lewis Childs and the name changed, I had two plantings of *America*—bought from different parties —one on either side of *Big Pink* for "comparison" and "testing" as to whether it really was the great *America*. With proof established these were thereafter added to our main planting of *America* in the field.

A bulb or two of *Rouge Torch* has been in my trial plot many years, because I not only admire its beautiful coloring, but because I find its wide-open form and graceful spike generally dominant characters in hybridizing. Gladiolus *Rose Wells*, a direct cross of *Rouge Torch* and *America*, shows these traits very distinctly. It having the form and marking of *Rouge Torch* with the lavender-pink tinting of *America*, while its tall slender spike is an improvement on that of either parent.

Augusta, which should have received the appellation of, "cut and come again," so prodigal is it with its blooming spikes late in the fall. *May*, a good variety in its day, bloomed there. And countless lesser stars which have pleased us for a while, then been forgotten, have passed thro' my trial plot. A few have stood the test of time and the point that I wish to make in this reference to my trial plot is the necessity of the grower of seedlings subjecting his pets to the most rigid comparative test and under the same cultural conditions. I believe that methods along this line would be helpful in preventing inferior varieties being placed on the market, and in eliminating ordinary varieties already under name. All should work together for Better Gladioli.

In the new Gladioli there may be many types. While large coarse flowers do not always appeal to our better taste, yet there is a touch of grandeur and magnificence about them that places them in the novelty class. At the S. A. F. O. H. exhibition in Cleveland last summer *Golden Measure* (by no means coarse) was exhibited in wonderful growth and beauty, and I also saw another type in yellow, no larger, perhaps not as large, but different form and possessing merit. If there were a similar one having the refinement of ruffled petals it would have been still another type than either of the above mentioned and equally desirable. Thus while the new seedling to be named and introduced may not be extreme in any way, still it must be different from the ordinary.

Illustration shows the tall growing spikes of Gladiolus *Rose Wells*.

I like to try the varieties of other growers' productions and in order to not deceive myself or be influenced by great advertising, I grow such varieties in my trial plot entirely under number. The past season I grew some over fifty varieties of other growers' origination, most of them catalogued and well advertised. I wrote their names in my field book giving each one a number, and planted them giving each the number only. Not having seen them enough to be acquainted with them it was impossible for me to know the name of the bloom by its number without reference to my book, and there were many surprises in store for me. They were all planted the same day and received the same culture. Those early to bloom were given credit according to the size of the bulb, and the others according to their points of beauty and my opinion as to their desirableness.

Most of them were very attractive, but a few stood out from the rest so entirely distinctive and superior that they caught my eye every time.

One magnificent variety fairly took my breath away one morning. A large pure clear lavender measuring strong five inches in diameter. This regal flower, *Louise*, was on a spike four feet six inches tall and bloomed Sept. 7th. I want to try it blooming in the heat of August when the hot sun will bring out further testing.

Golden Measure came into bloom the same day and was equally attractive and a wonderful seed producer.

I found *Nymph*, a large ruffled of beautiful pink to be exceedingly fine.

Barronne d' Ivoley proved especially beautiful with its two rows of well placed ruffled white flowers on a spike four feet in height. The blooms were touched with amber in the throat.

White Giant was noticeable because of its great size, but I prefer the rounding petals of *Europa* when it behaves well. *White Giant* is certainly very good.

Lutetia is another of great size, modestly catalogued as "easily opening four inches, frequently more," while with me many of them were nearer six inches. Another wonderful seed producer and thus of value in hybridizing.

A variety which I had under the name of *Jack London* proved to be *Mr. H. A. Hyde* according to the description, and exceedingly lovely.

My trial plot is of never failing interest. It is there I find varieties that will stand the test of time.

MRS. A. H. AUSTIN.

The Lace Flower.

In the heart of every flower lies a secret. The dainty lavender flower in my garden shows that the secret of Queen Anne's flower as some wizard saw the purple spot in her white lace and from it bred a flower more dainty than that of the wild carrot or Dancus Carrota, yet retaining its manner of growth.

Last winter this flower was largely catalogued as the blue lace flower. It is not blue, but a lavender suggesting stokesia. It is better so, for we like to think of old lavender and lace.

This is a new flower bred from one which came originally from Europe, but which is now growing wild among us, making pretty birds' nests as it seeds. Yet as we look at this exquisite new flower with the dainty sparkle to its bloom we think of ladies of an older day when Nathaniel P. Willis and Charles Sprague wrote. We will leave the rosebuds to the debutantes, the daisies to the children, but let the old ladies tuck these dainty blooms into their white kerchiefs holding them in place by their cameo brooches over their black satin gowns. Are there any such dear old ladies left? Remember there is a sparkle to these lavender blooms.—M. R. CASE in *Horticulture*.

The St. Thomas Horticultural Society.

The St. Thomas Horticultural Society is establishing in its trial grounds collections of everything that is of interest to horticulturists. The Peony collection in the City Park is being added to materially this fall, and 200 varieties are now being grown. Irises are plentiful but though of fairly good varieties are unnamed. Therefore, the society concluded to donate an entirely new collection and 165 varieties of the better kinds of Iris (Germanica) are being planted this week. The writer, who has the honor of being Canadian Vice-Prest. of the American Iris Society, would be pleased to receive donations from Iris growers for the trial grounds.

In anticipation of being selected as the annual meeting place of the American Gladiolus Society and the Ontario Peony Society in 1921, the citizens of St. Thomas and particularly those identified with the Horticultural Society are busy laying plans for a most successful meet. The industrial plants and civic buildings are entering into the beautification scheme in a splendid manner.

H. T. Moore, chief landscape gardener of the Ontario department of highways, gave an illustrated address on "The Beautification of Parks and Streets," on the evening of Oct. 12. In company with the City Council and Horticultural Society executives, Mr. Moore looked over the approaches to the Provincial highways entering St. Thomas with a view of beautifying them in keeping with the *Flower City*.

A most successful "Tag Day" was held on Sept. 23rd by the Local Council of Women for the benefit of the local Horticultural Society. Some $525 was realized. Several church organizations are planning on aiding the work by benefit concerts during the fall and winter season, the first of which was given on Thursday evening, October 14th, by the Unique Bible Class of Central Methodist Church. This class, composed of some forty young men, put on a splendid entertainment, realizing between $50 and $60.

A great many ornamental flower baskets have been donated to the local hospital by public spirited citizens. The baskets were procured by the society and sold at cost. Larger baskets were also secured by several of the churches, the majority of which are beautifully decorated each Sunday with the choicest of flowers.

F. E. BENNETT, Prest.

The work which our friends, The St. Thomas Horticultural Society, are doing is a good example of the possibilities of an active horticultural society. The results which they have accomplished may be duplicated elsewhere if as much enthusiasm can be stirred up.

The New York Federation of Horticultural Societies and Floral Clubs.

REPORT OF THE ANNUAL MEETING.

The annual meeting of the New York Federation of Horticultural Societies and Floral Clubs was held at the State Fair at Syracuse, New York, September 15, 1920. The meeting was called to order at 3 o'clock with President F. R. Pierson in the Chair. In the roll-call of the Federated Societies the following were represented by delegates: New York Florists' Club, New York Horticultural Society, Tarrytown Horticultural Society, Buffalo Florists' Club, Rochester Florists' Association, Syracuse Rose Society, Syracuse Florists' Association, New York and New Jersey Association of Plant Growers, Albany Florists' Club, Western New York Floricultural Society. The Secretary's report of the four meetings held during the year was read and approved. The report of the Treasurer showed $275.80. The Treasurer also reported that several organizations had not paid their annual dues and he was instructed to send the Secretary a list of such organizations so that they might be notified of the amount due.

At the annual meeting in 1919, notice was given that at the next annual meeting the Constitution would be amended to provide for an Executive Committee to consist of the Presidents of the affiliated organizations. This change was voted and the Executive Committee constituted.

President Pierson reported the results of the conference held in New York City, June 15, 1920, to consider Quarantine No. 37, where 500 or more trade and amateur associations were represented. The conference resulted in an organized effort to secure a modification of the present quarantine rulings. After discussion the following resolution was adopted and the Secretary was instructed to send the same to the Federal Horticultural Board:

"The New York Federation of Horticultural Societies and Floral Clubs in annual session at the State Fair, Syracuse, New York, September 15, 1920, respectfully urge that Quarantine No. 37 be so modified that novelties in small quantities, not to exceed one hundred plants, may be imported for purposes of propagation, with soil on their roots and that they be examined and passed by the Federal agents at four ports of entry: *i. e.*, Portland and San Francisco on the Pacific Coast and New York and Philadelphia on the Atlantic Coast, instead of being sent to Washington as now required, which almost invariably results in the loss of the entire importation, especially of soft-wooded plants."

In regard to the greenhouses for investigational purposes at Cornell University, E. A. White reviewed the meetings of the Committees from the Federation which had met at the Agricultural College during the past year, and that as a result of these meetings recommendations had been embodied in the general project for the completion of the College of Agriculture. As a result of the activities of the various Agricultural and Horticultural organizations of New York State and at the request of the Trustees of Cornell University, the last Legislature passed a bill appropriating $3,000,000 for the completion of the College of Agriculture. Five hundred thousand becomes available this year. Plans for the greenhouses are included in the general building project and the Department of Floriculture at Cornell University is now working on the development of the plans which must be completed and approved by the Trustees prior to December 1, 1920. The plan included a modification of the present Dairy Building to provide class rooms, laboratories and offices for the Department of Floriculture. This building is in close proximity to the present range of greenhouses used for instruction in Floriculture.

Dr. Erl Bates, Chairman of the committee from the Federation appointed at the last meeting to confer with a committee from the New York Vegetable Growers' Association, Fruit Growers' Association and Bee Keepers' Association, regarding a Horticultural Building at the New York State Fair, reported a joint meeting held in Albany, N.Y., in March. At this meeting a committee was appointed to confer with the Chairman of the Finance Committee of the Senate in regard to an appropriation for the Horticultural Building. Because of the urgent need of the various State charitable institutions and hospitals there was a feeling that there should be no improvements at the State Fair until these were provided for and during the year no improvements have been made on the State Fair Grounds except for roads. After discussion it was voted that the following resolutions passed last year and sent to the various state officials should be again presented to the Secretary of the State Fair Commission, Governor Smith, the Chairman of the Ways and Means Committee and the Chairman of the Finance Committee of the Assembly.

"Whereas, New York is the leading horticultural state in the Union,

"Whereas, Six years ago and each year since, we have brought to the attention of the State Fair Commission the urgent need of a horticultural building worthy of the extensive fruit, flower, vegetable, bee; seed and nursery stock interests of the state, and

"Whereas, The Commission by formal resolution agreed that the first new building erected would be to properly house our exhibits, therefore be it

"Resolved, That we the New York State Federation of Horticultural Societies and Floral Clubs again bring the matter to the attention of the Commission asking that this building project become a reality.

The same committee consisting of Dr. Erl Bates, Chairman; F. R. Pierson, Tarrytown; F. A. Danker, Albany; W. A. Adams, Buffalo; Anton Schultheis, College Point; Charles Vick, Rochester, and Arthur Cowee, Berlin, was named as a permanent committee charged with the responsibility of looking after the interests of a Horticultural Building at the New York State Fair Grounds.

Professor J. P. Porter of the Department of Landscape Art, Cornell University, reported that the Department was at work on a plan for the development of the ornamental planting of the State Fair Grounds with reference to the Horticultural Building and that they would be very glad to co-operate in the development of the plans.

E. A. White reported the organization of an amateur Rose Society at Skaneateles through the activities of Charles G. Adams, Auburn. N. Y. Also that Mr. Adams is very much interested in a plan for Rose plantings along the State highways. The project which Mr. Adams has in mind is encouragement of Rose plantings about farm homes and the introduction of the hardiest species and varieties, especially the native Roses, along the State highways. A project for such plantings is already being developed on the State highway between Auburn and Skaneateles.

President F. R. Pierson invited the Federation to hold its winter meeting with the Tarrytown Horticultural Society. The date will be announced later.

The following officers were elected:

President—F. R. Pierson, Tarrytown, N. Y.
First Vice-President—Dr. Erl Bates, Syracuse, N. Y.
Second Vice-President—Charles Vick, Rochester, New York.
Third Vice-President—Anton Schultheis, College Point, N. Y.
Fourth Vice-President—F. A. Danker, Albany, N.Y.
Fifth Vice-President—W. H. Workman, Oswego, New York.
Treasurer—W. A. Adams, Buffalo, N. Y.
Secretary—E. A. White, Ithaca, N. Y.

E. A. WHITE, Sec'y.

Hardy Phloxes, Hardy Chrysanthemums and Perennial Peas are blooming on this date, October 22nd, in Northern New York. This has not occurred for a number of years and is not likely to occur again soon.

The American Iris Society.

WHAT'S IN A NAME? Very little, perhaps, after we become acquainted, but a great deal when we first read it in a catalogue, and there are an infinite variety of Iris names, well over three thousand in fact now find a place in our check list and some are strange and some are duplicated once and yet again. We need a Code of Nomenclature to regulate the future additions and it seems desirable that not only the committee but all our members should have an opportunity to express their preferences.

Out of the present three thousand names there are some forty Madames, half as many Mrs. and entirely too many of similar beginnings. There are names difficult to pronounce. Who would tell his friends about *Abd-el-Kadir, Hopatcong, Belle yvrinne,* or even *Sindjkhat?* There are long ones like *Souvenir de Mme. de Gaudichau,* or *Conqueror of Europe,* and some are far too much alike. How many will distinguish between *Dorothea* or *Dorothee, Elinor* or *Eleanor,* and *Sappho,* that may be a squalens or a neglecta, a cengialti or a plicata? Do such examples not prove that we need a Code of Nomenclature and a Registration of names?

Certain named varieties have probably long since vanished from cultivation. If the names were attractive they might well be used again. Again an introducer may wish to change a name. The name of Iris *Mrs. Sherwin-Wright* is a case in point. In both cases we need an authoritative *modus operandi.* It will not do, however, to go against established custom. We would not drop the *pallida* from *pallida Dalmatica* perhaps, or revert to *Iris Konig* in place of *Iris King.* The *pallida* to be sure is but a relic of the days when botanical species were many and garden varieties but few, and the anglicising of *Iris King* reminds us of the similar action that has brought almost hopeless confusion among the Japanese varieties, but these are now accepted and it is the future with which we must deal. Slowly the growers are following the example of R. Wallace & Co. in giving the originator's name in parentheses and this is doing away with possessives and tends towards simplicity. And that brings me to the use of the names of friends. There are few who have not done this. At first glance it seems a pleasing honor, but how few Irises stand for many years in the first rank, and to become obsolete and forgotten is hardly an honor, and the names to strangers carry no bit of association. Surely a name like *Eldorado* or *Fairy* is of greater appeal. *Afterglow* has proved a taking name, sometimes I think too taking, and I have always liked *Juniata* even though I did call it *Juanita* for many years. Not often do names and the flower seem to be in character, but we should try to keep them short and easy to pronounce or spell, not only within our own language but for others. Fortunately in Iris we are rarely afflicted with the long personal names that we find attached to Roses and I hope that we can avoid the natural abbreviation that nicknames the Peony *Lady Alexandra Duff,* plain *Duff;* particularly in the case of so fine a flower it seems somehow lacking in respect.

With these points well in mind I hope that you all (particularly you seedling raisers) will consider carefully the following code that is now under consideration, a code based largely on that of the American Pomological Society.

SUGGESTED CODE OF NOMENCLATURE

PRIORITY

Rule 1.—No two varieties of Iris shall bear the same name. The name first published for a variety shall be the accepted and recognized name except in cases of varieties officially declared obsolete.

A:—Where a variety name through long usage has become thoroughly established in horticultural literature for two or more varieties, it should not be displaced or rectified except in cases where a well-known synonym can be advanced to the position of leading name. The several varieties bearing identical names should be distinguished by adding the name of the originator or any other term or definition.

B:—The paramount right of the originator, discoverer, or introducer of a new variety to name it, under the limitations of this code, is recognized and emphasized.

FORM OF NAME

Rule 2.—The name of a variety of Iris shall consist of a single word whenever possible, or compatible with the most efficient service to horticulture. Only under exceptional circumstances should more than two words be used.

A:—No variety should be named unless distinctly superior to existing varieties in some important characteristic, nor should a name be published (other than mere registration) until it has been determined to perpetuate and distribute the variety.

B:—In selecting names for varieties the following points should be emphasized: distinctiveness, simplicity, ease of pronunciation and spelling.

C:—Names should be spelled and pronounced in accordance with their derivation.

D:—The name of a person should not be applied to a variety during his life without his expressed consent, nor in general should names of individuals be used without good reason.

E:—The use of a possessive noun, *as,* or *in,* a name is not admissible.

F:—The use of a number either singly or attached to a word should be considered only as a temporary expedient.

G:—The botanical classification shall not be used as a part of the varietal name of a garden hybrid.

Rule 3 —In the full and formal citation of a variety name, the name of the author who first published it, and the date of this publication, shall also be given.

PUBLICATION

Rule 4.—Publication consists of (1) Registration by this Society, (2) in the distribution of a printed description of the variety named giving the distinguishing characters of plant, flower, etc., or (3) in the publication of a new name for a variety that is properly described elsewhere; such publication to be made in any book, bulletin, report, trade catalogue, or periodical, providing it bears the date of publication and is generally distributed among horticulturists; or (4) in certain cases the general recognition of a name for a propagated variety shall constitute publication of the name.

REVISION

Rule 5.—No properly published variety name shall be changed for any reason except conflict with this code nor shall another variety be substituted for that originally described thereunder except as herein provided.

NOTES.

Evidently the autumn is not the season to ask questions, for in response to my request for lists of favorite varieties, I received one list, though to be sure a list of discards may prove even more worthwhile.

Mrs. Fellows with a collection of well over a hundred varieties, takes pleasure in *Fairy, Odoratissima, Her Majesty, Caprice, Tectorum, Archeveque, Quaker Lady, Walhalla, Oriflamme* and *Tamerlane.* This list does not include many of the latest novelties, but, with the exception of the last three, I find myself fully in accord. For me *Walhalla* is less rich and blooms too nearly at the same time as some of the germanicas to be of real value. *Oriflamme,* low and large, is not unlike in color to *Neptune* or any among a number of tall and equally large varieties, while *Tamerlane* with its slightly clumsy growth is well surpassed by *Alcazar.*

I think that no one will disagree with Mr. Weed in relegating *Pameron, Willie Barr, Bleu Parfleur, Cottage Maid, Attraction, Miss Maggie* or *Lady Jane* to the dump. (I want to add *Lord Salisbury, Pfauenauge, Shakespeare* and *Liabaud* among others), but I think some of us will not wholly agree when it comes to *Wyomissing, Plumeri, Ivorine,* or perhaps *R. C. Rose.* The intermediates are always bothersome. *King Christian, Ivorine* and *Ingeborg* among the whites are almost equally good, but in general effect pretty much alike, and among the yellows, *Gerda, Halfdan, Helge, Etta* and *Empress* flock together. In some seasons or on some sites, one seems a little clearer in color than another, but another year there is a difference and I know not which to choose. At any rate I wish I had but one of each tint. Then Mr. Weed includes *Princess Royal.* It is a pallida-cengialti I should judge, tall, rather deep lavender, and altogether rather satisfactory, but whether it is better than *Viola* or *La Beaute,* whether one needs it with *Albert Victor, Gertrude* or *Juniata* or almost any of those lovely lavender selfs, is a question. So many of these pallidas are fine that when I find new things in this color, things like *Rodney, Drake* or *Benbow,* I wonder what the final judgment will be. These three happen to be very fine, usually well-branched, tall and floriferous, but—do we need them? And if we don't how can we improve our present varieties?

Mary Garden I find in this list also and let it stand, though as one of the first out-of-the-ordinary plicatas it has been of value. Have you noticed how many of the more recent introductions have left the old familiar pallida plicata, those that are white with frillings in lavender shades, and now show touches of brown, or bronze, in similar markings. *Pancroft* is such a one, a plicata in its markings but of such a peachy, creamy hue, the first year it was poor. Mr. Wing tells me that it did not show up well with him, but this year I saw it in perfection and quite fell in love with its delicacy. *Mme. Chobau* is an almost coppery plicata, but on so pure a ground that I think it will prove a favorite. I have, however, spoken of these odd plicatas elsewhere. Some people, Mr. Bliss included, like the heavy border of *Mme. Chereau* or *Pocahontas* and among his seedlings you will find some lovely things of this type, but personally I prefer less of actual coloring and find *Jeanne d' Arc* or *Ma Mie* pleasing. In these older types there can be few very distinctive new things, nor in fact among the lavender pallidas, or lavender bi-colors, but there is, and will continue to be, great improvements in size and carriage, branching or height, and if you learn to appreciate such details there is pleasure ahead.

Just a word on the Iris at this season. Practice varies. Some of you will be preparing a light covering of leaves or straw. Mr. Williamson, in Indiana, will be burning over his beds as a sanitary precaution and leaving them bare for the winter. I shall not chance this with the Trojana and Cypriana hybrids that show a winter growth of green, but I do like to clean my beds of all dying Iris leaves and weeds. Then, if it is a light soil, everything is ready for spring, but if it is heavy I shall take warning from last winter's losses and cover enough to prevent heaving by frost. Now, too, I like to make a last hunt for rot because with a wet season it will gain much headway. Mrs. E. P. McKinney recommends dipping the infected roots in a solution of corrosive sublimate 1-1000; I dust with powdered sulphur, and others try various solutions, but withal I can't help thinking that nine-tenths of the trouble is due to too much moisture at the roots and slowly my Irises are gravitating to the driest and sunniest sites I possess. If you haven't such, try planting on ridges or little mounds above the general level.

REGISTRATION.

Orchid—Pale yellow flashed with purple. J. Marion Shull.

Pensamiento—Perfection type. J. Marion Shull.

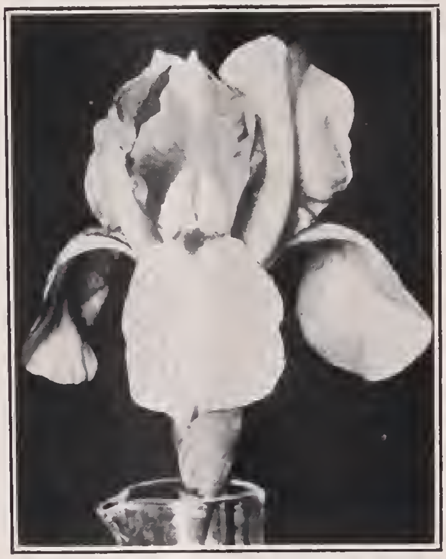
Solana—Yellow and chestnut maroon. J. Marion Shull.

ROBERT S. STURTEVANT, Sec'y.

The Iris can be planted any month in the year when the ground can be worked. There is no flower that is so persistent of life as the Iris, and it will bear transplanting most any time.

Yellow Iris—*Virginia Moore.*

An account of the new Bearded Iris, *Virginia Moore,* a new yellow self which this year received a Certificate of Honorable Mention of the American Iris Society, as already noted in this paper, and which won the highest prize offered at the Takoma Park Iris Show at Washington, D. C., may prove of interest to readers of THE FLOWER GROWER. It was originated and introduced by the writer:



Iris—*Virginia Moore.*
Single bloom a little less than half natural size.

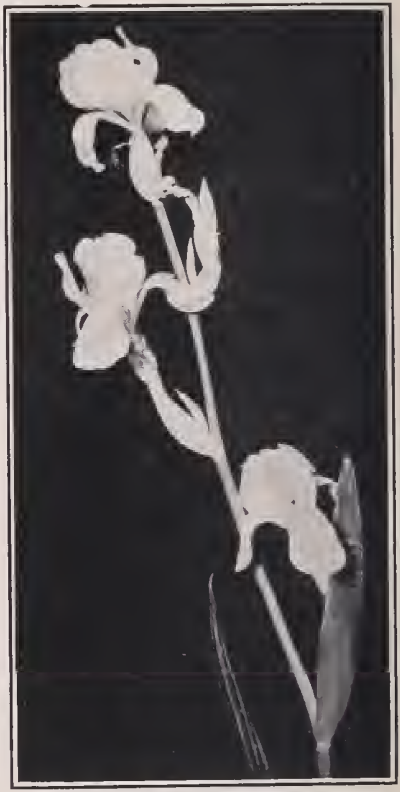
Virginia Moore is tall as compared with other yellow selfs, attaining a height of 34″, with flowers well distributed as shown in the accompanying photograph. The flowers, while not of extreme size, have measured up to $4\frac{3}{4}$ inches across as they naturally stand and without any special feeding or fertilizing, which makes it much larger than *Mrs. Neubronner* or *Sherwin Wright,* and as large or larger than *Aurea* or *Flavescens* at their best; but in color neither of the latter approach the clear lemon chrome (Ridgeway) of *Virginia Moore,* a beautiful yellow identical with that of the Lemon Lily, Hemerocallis flava, with which its flowers may be directly mingled and no difference of color detected. There is no tendency toward orange as in *Mrs. Neubronner* and the standards of so many variegatas.

But with all this it is not the perfect yellow Iris that we all hope for some time, though a long step toward it. One could wish for falls as free from veining as are the standards, but this is probably unobtainable from variegata sources, as is also true of the paler ground area just beyond the tip of the beard. However, in well developed specimens of *Virginia Moore* the veins are no more conspicuous or objectionable than in *Mrs. Neubronner* and, except for the connoisseur's bloom at close range, this defect, if we must call it that, is negligible.

Virginia Moore was derived from *Orchid* pollinated by *Honorabilis*; *Orchid* in turn being a very vigorous offspring of *Her Majesty* likewise pollinated by *Honorabilis,* the color of *Orchid* being an indescribable blend of sienna yellow and purple flashings without specific markings or veining, greatly unlike either parent yet combining the elements of both.

Well grown stems of *Virginia Moore* carry three branches besides the terminal with normally twelve flowers thus insuring a long blooming period; this year the original planting ran twenty-six days from first to last bloom. In addition it is an unusually rampant grower producing in its first year a single flower stem and one year later eighteen, permitting its division at that time into more than forty plants.

While this new yellow self will doubtless find its greatest use in outside mass effect rather than as a cut flower it would be hard to find a lovelier contrasting combination than a dozen stems of *Virginia Moore* with a couple stems of *Celeste* or some other light blue pallida.



Iris—*Virginia Moore.*
The upper 19 inches of a 34 inch stem.

J. MARION SHULL.

One of our subscribers asks us to give the experience of large flower growers with garden tractors. Any suggestions along this line which can be sent us will be gratefully received. We believe in the power farming idea, and that it is the coming thing, but whether it is practicable at the present time or not, for the small garden tractors is a question. This is surely the age of machinery and machinery should be utilized to perform operations requiring power. Man power and horse power should be used only where intelligence is required. Comparatively few people are willing to labor in contact with the soil anyway and it is absolutely necessary to utilize power wherever possible.

THE GLADIOLUS

The Forcing of Gladioli.

Some Causes of Failure Explained.

BY MONTAGUE CHAMBERLAIN.

(In *Florists' Exchange, 1916.*)

Many of our growers who have made an attempt to force Gladiolus bulbs have abandoned it because of failure. The plants did not bloom; frequently the bulbs did not even germinate. What was the cause? Most frequently these failures were the result of the bulbs not being allowed a sufficient time for rest and recuperation, which is as necessary for plants as for animals. The bulbs should be given three months' rest at least, and four months would be better.

To insure the most complete success the grower should arrange that the parent bulbs, those which are to produce the bulbs he intends to force, shall be planted early in the season, so that the new bulbs may have opportunity to complete their several functions and be ready for the rest period early in the Autumn. Or if he cannot control the planting he should obtain the required data from the grower.

The question of the size of bulb most suitable for forcing has been much discussed. Many growers, following tradition, have sought the larger bulbs, those of 2 in. diameter and over being the favorities, and to meet this demand the seed houses have provided what they style "selected" bulbs.

Just what size is the best for forcing depends somewhat upon the variety, the normal size of mature bulbs varying in the different sorts. The bulbs should be of good size, large enough to have stored up the required nourishment, but this can be found usually in stock of a smaller diameter than the "selected" bulbs. Taking *America* as an example, I should choose bulbs of 1½ in. to 2 in. I have seen bulbs of *America* that measured 2½ in. that would force well, but these are not common, for as a rule when they get beyond 2 in. they are apt to be "aged" and to have lost their power to produce first-class blossoms. What has been said about *America* will apply also to *Mrs. Francis King*, but it will not apply to all varieties, for if I were selecting bulbs of *Pendleton* I should want them about 1¼ in. to 1½ in. in diameter. Of the major part of the other varieties available at present, probably about 1½ in. to 1¾ in. or 2 in. would be found satisfactory, though among those of more recent introduction there are a number whose mature bulbs measure 2¼ in. to 2½ in.

The shape of the bulb is important, perhaps quite as important as its mere diameter, for by its shape, its vitality and its ability to produce first-class blossoms can be fairly well determined. The young, vigorous bulbs are conical; the aged bulbs are flat.

Another point worth remembering is that bulbs intended for forcing are the better for being fully ripened. Let me explain just what I mean by that, for it is a point that is often misunderstood. Each bulb that is put in the ground has certain functions assigned it. It must produce a plant with leaves and stalk and produce also a new bulb. The old bulb and the new combined must produce a spike of blossoms, and if pollinated these will be followed by pods filled with seed. After the seed is ripe the new bulb continues its development, drawing part of its nutrition through the roots of the old bulb, even after the body of the old bulb has been exhausted and contracted. The new bulbs grow rapidly in the weeks following seed production, and if they are left in the ground until they are completely matured they will then "ripen" quickly and their leaves will turn brown. But because they are more easily harvested while the leaves are still green and tough, they are sometimes pulled out before completing their growth. This is apt to occur more frequently with the younger growers, for the experienced men and those with keen powers of observation and intelligence have learned that it is decidedly to their advantage to leave the bulbs in the ground until they are ripe, in which condition they are dormant.

Varieties to Choose.

Just what variety to select for forcing depends upon the market. What do the florists want? There is more general demand for *America* than for any other sort, though *Mrs. Francis King*, *Chicago White*, *Augusta* and *May* are often found in this market. There are a number of others that cost but a moderate sum and will force well. In such a list I should place *Baron Hulot*, violet; *Brenchleyensis*, scarlet; *Halley*, salmon pink; *Independence*, flame pink; *Meadowvale*, white; *Pink Beauty*, rose pink; *Snowbank*, white; *Taconic*, bright pink; *The King*, mauve lilac, and others. As a matter of fact most of the sorts now on the market can be forced successfully, and many can be purchased at a price low enough to make forcing profitable. One winter we put some *Myrtle* under glass in December and in April took the blossoms to a big New York show. They were much admired and lasted well. At the end of the show they were still attractive.

The bulbs having been selected, the next question is—how shall they be planted? A soil suitable for Chrysanthemums or Carnations will be found suitable for Gladioli, and if the soil you have at hand does not seem quite rich enough you might add some sheep manure, taking care to work it into the soil. (Gladioli thrive in a rather rich soil.) Place the bulbs about 4 in. apart and cover them with about 4 in. of soil. Give them plenty of sunshine but keep the temperature about 55°, not letting it go below 50° at night.

As soon as the sprouts appear stir the soil around them and continue to keep the soil loose and open. Once a week, or as often as the soil seems to require water, give it a good soaking. Never sprinkle it. When the buds appear apply liquid sheep manure as often as once a week, taking care not to use so much that the plants are injured.

When preparing Gladiolus spikes for market it is best to cut them while they are "tight," that is, when the first two buds show color. It is not possible to get them into the florists' hands in good condition if they are cut when open.

The florists demand long stalks and will pay but half price for those that are "short," but if you have given the plants sufficient water they will have made stalks so long that you can satisfy the florists without serious damage to the bulbs, for the bulbs will suffer unless you give them enough leaves to enable them to continue their growth. Some growers think that two leaves are sufficient, but I have my doubts. This summer at the nursery, we cut a thousand spikes of *Ida Van*, leaving but two leaves, and in the same block were several thousand others uncut. Some three weeks after the cutting we dug up the entire block and I then discovered that the plants that had been deprived of their leaves produced bulbs of but half the size of the neighboring bulbs that had the benefit of all the leaves. It will be much safer to allow each plant at least four leaves.

Bulbs that have been forced cannot be used for forcing the following season, but in the spring they can be planted in the open field and will produce good blossoms and good bulbs.

What I have written here refers exclusively to the summer-flowering sorts. The Colvillei and the nanus group are grown in large quantities in England but have not become popular in this country. These varieties are planted in the fall and early winter and the blossoms are ready for an extremely early market.

Gladiolus—*America.*

Our Cleveland correspondent recently cited the fact that Gladiolus *America* had lost much of its character and popularity. The same view is held by many in the New York and other markets and an examination of the average stock sent into the market more or less convinces one that such is the case. But mental comparisons are not always reliable; a man who buys *America* blooms nowadays has no means of comparing past and present, unless he has a reliable color plate of the variety when it was first distributed. We believe that as fine spikes of *America* as were ever grown are still to be found and as true to the original color which took the world by storm. It is quite possible that many who declare *America* has lost quality may be unconsciously comparing the variety with some of the newer forms which have richer color or other superior merits. If *America* of the present day is actually inferior to what it was ten or fifteen years ago, the change is due to one or other of two causes.

It must be understood that all plants have a tendency to vary. The progeny of any particular plant, whether raised by cuttings, offsets or seeds, never exactly resembles the parent. Thus it follows that some of the progeny may be superior and others inferior to the parent. Under the circumstances direct saving of all the progeny, irrespective of these variations, is likely to bring about modifications of the stock. This modification is further likely to be toward inferiority, inasmuch as inferior types are usually most prolific in reproduction; with plants reproducing from seed this tendency is most pronounced. Regarding Gladiolus *America*, the general stock now available may be inferior because growers have neglected to select only the types that were equal if not superior to the original. On the other hand, it is not improbable that many of the stocks sold as *America* are not the variety at all, but seedlings closely resembling it, which have been distributed without regard to the fact that they lacked the identical size or color. Everyone who raises plants from seed in large quantities is bound to find examples that resemble or surpass others in commerce. The modern seed grower keeps up his stocks of some lines by watching for these variations. The late Henry Eckford time and again found his named varieties of Sweet Peas duplicated in later batches of seedlings, and, whenever these seedlings showed finer characteristics, the old stock was replaced by the new. Not a few of the present day Spencer Sweet Peas have, in the hands of specialists, been improved in the same way. Some of the present day Cyclamen are of a finer type than they were ten years ago, although the varietal names have not been changed. Their superiority is due to the fact that they are wholly new stocks.

Left to Nature there is no standing still in plant development; a stock will either improve or deteriorate, usually the latter. The grower must decide what he wants and hold up his stock to that ideal.—*Florists' Exchange.*

The statement has been made that the average life of a variety is about three years. There may be some question about this, but to prove or disprove is not so easy.

The Rose

Making a Rose Garden.

Important Points about Varieties and Cultivation.

THE FOLLOWING article which has been prepared by the Missouri Botanical Garden for its monthly bulletin contains many important points:

Location.

Roses are entitled to the choicest location in a yard. Good exposure to the sun, and proper protection from prevailing winds will do much to make the Rose garden a success. While a location with a full-day sun exposure is much to be preferred, it is not absolutely essential, and where a choice must be made it is best to give Roses the morning sun. Beds should not be located near trees or shrubbery. Roses are heavy feeders and for their best development require an unusual amount of fertilizer; when planted near trees or shrubbery, the roots of the latter deplete the soil of nourishment, with the result that the Roses suffer. If, however, planting in close proximity to trees and shrubs is unavoidable, it is advisable each year to dig a trench (about a foot wide and two or three feet deep) around the Rose bed and fill with well-rotted cow manure. This procedure will tend to prevent the roots of shrubs from actually entering the Rose bed. Sometimes a concrete wall is constructed deep enough to prevent this encroachment.

Soil.

Roses usually do well in any good garden soil, but better results are obtained if considerable care is exercised in the preparation of the ground. Roses require a heavy, well-drained soil. To obtain this, the area to be used for a bed should be dug out to a depth of from eighteen inches to two feet, and if the drainage is not good another six inches should be removed and this space filled with fine broken stone, brick, or old flower-pots. Upon this porous stratum six inches of well-rotted cow manure should be placed, and finally sufficient heavy soil to finish the bed, raising it not more than three inches above the surrounding grade. This latter layer should, if possible, be top soil (including sod) from an old pasture. After making the bed it should be allowed to settle for a week before the planting is begun.

Planting.

Roses may be set out either in the fall or in the spring. The spacing depends very largely upon the variety; tea and hybrid tea varieties may be planted about eighteen inches apart, but hybrid perpetuals, on account of their more vigorous growth, should be spaced at least two and one-half feet, and ramblers eventually need about four feet. In any case an eight-inch margin from the edge of the bed should be allowed. Where potted stock is being planted, the ball of earth should be placed with its upper surface about two inches below the soil; field-grown stock may be set two or three inches lower than its former position in the nursery. The holes for receiving the plants should be large enough to admit the stock without bending or crowding the roots, the soil should be firmly packed around the roots, and the plants thoroughly watered immediately after planting. All stock should be so pruned that but two or three buds remain on each shoot—the upper bud, in each case, pointing outward.

Varieties to Plant.

Rose stock may be either grown on its own roots, or grafted or budded. It may be well in this connection, however, to call attention to certain disadvantages which attach to budded stock. In general, budded stock is more easily killed in severe winters than is stock grown on its own roots, and in addition the shoots which invariably spring from the parent stock frequently suppress the scion unless cut away. On the other hand, there are varieties of Roses which it is impossible to grow satisfactorily unless they are budded on to a hardier stock.

Of the four or five thousand varieties of Roses at present on the market, some growers list as many as eight hundred, but of these only a few grow to perfection in this latitude. As the result of tests from the standpoint of perfection of blooms, profuse flowering, and general hardiness, the following list of varieties has been prepared as being particularly desirable:

Hybrid Tea (Ever-blooming)—*Gruss an Teplitz*, scarlet crimson; *Lady Ashtown*, pale rose; *Madame Jules Grolez*, bright china-rose; *Indiana*, red; *La Detroit*, shell pink; *Ecarlate*, scarlet; *Lady Ursula*, flesh pink; *La France*, bright pink rose; *Augustine Guinoisseau* (white *La France*); *Otto von Bismarck*, bright rosy pink; *Mrs. Aaron Ward*, Indian yellow; *Killarney*, pink; *Killarney*, white; *General McArthur*, bright crimson; *Duchess of Wellington*, deep coppery yellow.

Hybrid Perpetual, or Remontant (blooming period 4–6 weeks)—*Frau Karl Druschki*, snow white; *General Jacqueminot*, brilliant scarlet crimson; *Magna Charta*, bright rose; *Ulrich Brunner*, cherry crimson.

Polyantha (Dwarf Hedge Rose)—*Katherine Zeimet*, (white baby rambler); *Orleans*, geranium-red (the best ever-blooming variety for hedges yet found); *Clotilde Soupert*, flesh.

Rugosa or Japan Rose—Any variety that is suitable (the single or semi-double only produce the scarlet hips or seed pods).

Sweetbrier—Any Lord Penzance variety that is suitable (do well in partial shade and shrubbery borders).

Moss Roses—Any variety that is suitable.

Wichuraiana and Climbers—*Hiawatha*, brilliant scarlet; *La Fiamma*, crimson and white; *Dorothy Perkins*, light pink; *Dorothy Perkins*, white; *American Pillar*, pink with a clear white eye; *Lady Gay*, cherry-pink.

Spring and Summer Care.

Before growth commences in the spring, the surplus coarse manure should be removed from the beds and the remaining fine portion turned under. Deep cultivation is not desirable—three inches being quite sufficient in beds which have not been trampled on—as the roots are likely to be injured or broken. For this purpose it is desirable to use a four-pronged digging fork, as it is less likely to injure the roots than a spade. Afterwards, and until the buds begin to develop, nothing more is necessary except frequent stirring of the surface with a sharp-pointed rake. As the flowering season approaches, feeding with liquid cow manure should begin and should continue until the blooming season is over, after which all stimulation should cease. The liquid cow manure is conveniently prepared by adding about six pails of fresh cow manure to a barrel of water (fifty gallons) and allowing the mixture to stand a day or two before using. If a half bushel of soot contained in a burlap bag is hung over night in the barrel of liquid manure, the beneficial properties of the fertilizer will be greatly increased. About one-half gallon of this infusion should be used for each plant and the application may be repeated once a week. It is safe to say that this is one of the most efficient fertilizers for Roses. During July a light top dressing of finely crushed bone is also of advantage.

Although it is generally believed that magnesium in excess is the most poisonous of all the plant nutrients or fertilizers, Tonk, as early as 1889, recommended a manure for Roses containing sulphate of magnesium with, however, an excess of lime. Here the matter rested for twenty years. In 1909, Truffant noted the large proportion of magnesium found in the analysis of Roses, and stated that soils deficient in this element produced but a weak growth of Roses, but that the addition of magnesium salts brought about a marked increase of vigor and growth. The following year at the International Rose Conference, in Paris, the particular value of magnesium for Roses was one of the subjects for discussion. It was declared to be indispensable and it was stated that it should always be given in the form of sulphate in doses of about five ounces to the square yard.

As the result of recent experiments and the experience of at least one practical Rose grower of national reputation, it is believed that the following practice is correct: Attention should be called to the fact that all Roses do not react alike, and some varieties not yet tested may not respond satisfactorily or may even be slightly injured by the magnesium. One should, therefore, proceed cautiously. If plants are to be watered with a solution, use nitrate of magnesium at the rate of one ounce to the gallon. This may be used once a week through the season, but if any ill effects are noted, the application should be discontinued. If the magnesium is to be applied dry, it is better to use finely powdered commercial carbonate of magnesium which contains a certain amount of lime. This should be applied at the rate of one-third of a pound to the square yard. No immediate effect will be noticed from the application, but, later, increased sturdiness and consequent richness of foliage and blossom should result.

Insects.

Half starved and otherwise neglected Roses are quite susceptible to insect attacks, which, however, is not the case if the plants are properly cared for. The most serious insect enemy of the Rose is probably the green fly, well known to all who have grown Roses. It is a small, green plant-louse, or aphid, about one-eighth of an inch in length when full-grown and usually wingless. The body is oval and soft and secretes a sweet fluid of which ants are particularly fond. The presence of ants on Rose bushes is good evidence that the aphids are at work. The latter usually work on the young shoots, sucking the juices with their long, slender beaks, and if unmolested quickly destroy the vigor and vitality of the Rose plant. The most effective agent with which to combat the aphid is tobacco smoke, but its use out of doors is obviously connected with serious difficulties. In its place, however, a solution made from tobacco stems and whale-oil soap will be found effective. To make this solution one pound of tobacco stems should be soaked in a gallon of water over night, after which one ounce of whale-oil soap which has first been dissolved in a small quantity of hot water, should be added (it will require three or four hours for the soap to thoroughly dissolve). The solution so prepared should be thoroughly stirred before using and may be applied either with a sprayer or with a whisk broom. This quantity is sufficient for about twenty-five plants. Where a sufficient water-pressure is available the green fly may further be kept in check by vigorously spraying the plants from time to time, as required.

Another troublesome pest of outdoor Roses is the Rose hopper, or thrips. This insect is small, yellowish white, about three-twentieths of an inch long, and provided with a pair of transparent wings. It preys upon the leaves, working especially on the under side, causing the foliage to assume a sickly yellowish appearance. The control of this insect is more difficult because of its active jumping and flying habits. Spraying the plants with water, so as to wet the under side of the leaves, and subsequently dusting them with powdered hellebore usually effects a sufficient control.

Several kinds of caterpillars prey upon the Rose, sometimes causing considerable injury. All of them envelop themselves in the leaves or burrow in the flower buds. Powdered hellebore sprinkled over the plants prevents to a considerable extent the movements of the larvae, but removal is best accomplished by actually picking them from the plants.

FUNGOUS DISEASES.

The mildew is perhaps the commonest disease of the Rose. Some varieties are seldom attacked and certain locations are much more subject to it than others. The disease generally makes its appearance in the autumn, when the nights begin to grow cool. At this season, however, it works but little harm, as the plants have made their growth and the wood is nearly or quite ripened. A mixture of equal parts of quick lime and sulphur, applied when the dew is on the plants, will usually prevent mildew. The following solution has been used successfully: one ounce of copper carbonate, one pint of ammonia, and ten gallons of water. Plants should be sprayed with this mixture once a week, using a nozzle giving a fine spray.

WINTER PROTECTION.

The work of protecting Roses against the severe cold of the winter should be done by November 20. The earth should be heaped up around each plant to a depth of from two to three inches in order to provide drainage away from the center of the plant, and from four to six inches of straw manure should be placed over the entire surface of the bed. This treatment will protect any of the varieties previously mentioned, except the tree, or standard Roses. These are budded at the crown and unless wrapped with hay or straw, freeze very easily.

PRUNING.

One of the most important considerations in Rose culture is that of pruning. No directions can be given which will be sufficiently explicit to enable one to know just what to do in each individual case; practical experience alone can furnish this information. But the general principles that should be observed in pruning can be readily stated. As regards tools, a pair of good shears and a pruning knife with hooked blade are desirable. The work can be more quickly and easily done with the former, but where a very smooth cut is to be made, the pruning knife is preferable—also because it is less likely to bruise the bark.

All pruning should be done while the plants are dormant. The chief objects to be held in view in pruning Roses are: the production of a symmetrical plant, and the promotion of flower bud formation. To secure these results plants of delicate habit and weak growth should be severely pruned. Vigorous growers, on the other hand, should have the shoots only moderately shortened, but the branches well thinned out. In all cases the cut should be straight across the stem in order to expose a minimum amount of wounded surface, and care should be taken that the top bud which remains points outward. Climbing Roses require no pruning beyond cutting out the very old and dead wood and shortening the laterals, except the trimming which may be necessary to make the plants conform in shape to a particular arbor or trellis. The tendency seems to have been towards over pruning.

How to Plant Your Roses.

BY CHRISTINE EMERY. (Wash.)

[*Written expressly for The Flower Grower.*]

Important as the selection of varieties undoubtedly is the most decisive step in Rose growing is the selection of location and the preparation of the beds. All of this work should be well under way, if not entirely done, before the plants are ordered.

First of all an open situation should be chosen, making sure that they are placed beyond the range of the feeding roots of large trees, that they will get plenty of sunshine and yet be sheltered from harsh winds or an otherwise bleak exposure. Select the mildest place in the garden for your choice Roses, not because they are tender and need constant protection, but rather for the positive assurance that they will repay more liberally than any other garden flower for any advantage or attention that is given them.

Hardy perennials and native shrubbery adapt themselves so willingly to the more exposed and shaded locations that we need have no hesitancy in giving the best of our space to the Roses.

The ideal Rose soil is a clay loam with a good drainage. Heavy soil may be lightened and made porous with sand, fine gravel, charred wood or coal ashes.

If you would produce prize winning Roses the soil should be excavated to a depth and width of approximately thirty inches, carefully reserving the loam and top dirt from that of the subsoil. If the soil is a heavy clay put in a drainage layer of coarse rock, tin cans or other debris, for, as an old English gardener somewhat testily told a questioning employer, "You would not thrive with your feet cramped in cold water all of the time, so why should you expect it of the Roses?"

On top of the layer of drainage place the sods, if any, that were taken from the beds, turning them grass side down, and over them spread a thick layer of well rotted stable fertilizer, preferably cow manure, bringing it up to within a foot or so of the ground. Take a small portion of the top soil that has been set aside and mix it well with an equal amount of the fertilizer. Partially fill the remaining space with this mixture, then cover it with about two inches of clear top soil, thus making sure that the roots of the Roses will not come in direct contact with the fertilizer.

As the root soil should be especially prepared we will take the remainder of the top soil, the portion that was directly under the sod, and add to it one-third of its bulk of *bone meal.* Mix this thoroughly and fill the trench with the meal enriched soil, rounding it up in "crown fashion" until the top of the trench is at least three inches above the surrounding earth.

Upon arrival, Roses should be unpacked in a shady place and all labels verified. Prior to planting set the plants in a tub or trough partially filled with water that the thirsty roots may be given new vigor. Remove them from the water and place them directly in the soil.

The old earth line is a reliable guide and the new planting should be made fully one inch deeper than they stood in the nursery rows.

All plants should be well tamped or trodden down into the soil. This is where experienced and apparently stoical gardeners set a wise example for the novice, for thorough and instant contact with the soil can be established in no other way, so if you would fulfil your visions of rows of gorgeous bloom do not fail to "put the weight of your foot" firmly and unmistakably about the roots of the newly set plants.

When they are well trodden, cover the packed soil with a two inch mulch of loose and friable soil.

Wire bound labels should be detached at planting time that they may not impede the growth of the canes or that the friction from them prove injurious. Twelve inch sections of wooden lath on which the name is printed may be driven into the ground beside the bush and make very satisfactory markers, especially when the planting covers a large area, although small slips of wood marked with an indelible pencil are generally all that the average Rose grower needs, and these are used primarily for the education of the visitors within his domain.

For those who are planting a Rose garden and making their selections largely by color the following list of reliable varieties is sure to prove satisfactory:

Red Roses—*General McArthur, Hugh Dickson, Ulrich Brunner,* (that close rival so often grown as *The American Beauty,*) *Lady Battersea* and *J. B Clarke.*

White Roses—*Frau Karl Druschki, White Cochet, White Killarney.*

Pink Roses—*Mme. Caroline Testout, Viscountess Folkstone, Admiral Dewey, Mrs. Wakefield, Mme. Segond Weber,* and *Christopher Miller.*

Yellow Roses—*Progress, Harry Kirk, Mrs. Aaron Ward, Mrs. Waddell, Lady Hillingdon, Mme. Melaine Soupert, Mme. Ravary, Joseph Hill* and *Duchess of Wellington.*

Single Roses—*Irish Fireflame, Irish Elegance* and *Austrian Copper.*

Climbing Roses—*Alberic Barbier, Dr. Van Fleet, Climbing Testout.*

Climbing Cecil Brunner—*Mme. Alfred Carriere.*

Special Rose—*Los Angeles* as grown in its pink and gold glory on sturdy stems is the one special Rose which should be in every garden.

It would seem that the proportion of bone meal, 25% for the root soil as recommended, would make a very strongly fertilized soil, but as the quantity of soil used in this way would not be much, it would perhaps be permissible.—Editor.

Winter Protection for Roses.

I treat my Roses according to the habit of the plant. Such varieties as *Madame Plantier,* which produce blossoms on short stalks thrown out all along the large branches, I lay flat on the ground and cover with four or five inches of dry soil. Care must be taken to prevent the accumulation and retention of water in the covering. As a means to this end I cover the soil over the bushes with tarred paper or something which will shed rain.

Hybrid perpetuals, when grown on their own roots, send up so many shoots from the bases of the plants each season that I do not attempt to save all the tops. Instead I cut away most of them, and bank up the portion left with litter. For this class of Roses I find this a more satisfactory method than laying the bush down, as it greatly lessens the work, and, if plenty of manure is used to produce vigorous development, one gets finer flowers from the new growth than from the old stalks.

In laying down Roses one should provide oneself with thick canvas or leather gloves. The work of bending the bushes to the ground should be done with much care, as there is great danger of injuring them if they are not carefully handled. Take hold of each bush at its base with the left hand, and hold it in a firm grasp while, with the right hand, you bend it down. Unless this part of the work is done with extreme care there is danger of breaking each bush close to the ground; but if its base is held firmly, and no abrupt or sudden pressure is made upon it, it will yield gradually and safely to the strain. After the plants have been placed flat upon the ground strips of wood or something with sufficient weight should be laid across each bush to hold it in place until it can be covered.

It is a difficult matter to lay down Roses of the Crimson Rambler class, with their thick, stiff canes. I do not attempt it. I gather the branches into as compact a mass as possible, tie them to keep them in place, and then cover them with evergreen branches tied on to the plants, which are left in upright position. Be liberal in the use of this covering. It will not keep out the cold, but it will shade the stalks, and thus the protection from the sun will be secured. Then bank deeply about the roots.—Eben E. Rexford in *Country Gentleman.*

Pansy Plants.

A pleasant way to earn a little pin money is by raising Pansy plants for sale. Plant the seeds in mid-summer, selecting as variegated an assortment as possible. If you have a vegetable garden, it will be a good idea to plant the Pansies in a garden bed which an early crop has left empty—for instance, where peas or radishes have been grown.

The plants will get a good start before cold weather. Protect them by a covering of straw or dead leaves from the winter's cold, and they will be ready to start up at the first hint of spring, and be in a thrifty condition, blossoming profusely, by the time they are in demand for setting out.

Take up with a trowel, leaving plenty of dirt adhering to the roots, place in boxes which will hold a dozen plants, and they will find ready sale in the grocery stores and other places, at from 25 to 50 cents per box.—Lena B. Ellingwood, New Hampshire, in *Farm and Home.*

This is an unusually late fall and we do not remember of having cut Gladiolus blooms as late as October 22nd before. *Loveliness* and *Summer Beauty,* planted July 3rd, are the ones to bloom so late; also a few spikes of late *Primulinus Hybrids* planted late.

Effect of Pollenation on the Life of Flowers.

By William H. Phipps.

[*Written expressly for The Flower Grower.*]

WHILE ENGAGED in pollenation in the early summer of 1919, I was struck with the fact that when flowers have been pollenized they wither and decay much sooner than the flowers that I had not pollenized. Thinking at first that it was because of the bloom being older, I then pollenized flowers as soon as they would accept pollenation and found the same result and that the flowers thus pollenized withered much sooner than the older flower on the same spike.

I cut flowers and placed them where they could not be pollenized in the usual method by bees and other honey seeking insects and found that they lasted much longer than when left where they would be pollenized by insects and humming birds. Then I proceeded by taking flowers of the same variety and cutting as soon as the first bud showed color, taking them into the house where they would be absolutely free from outside pollenation. I pollenized one of the spikes and left the other free as the flowers came out and found that invariably the flower pollenized withered hours before the one not thus pollenized.

Knowing that it is claimed that Gladioli self-pollenize I endeavored to avoid this by taking a pair of long, slim manicure scissors and cutting the pistil in each open bloom and in the others as soon as open. My observation was to the effect that I prolonged the life of the flower nearly two days and as nearly as I could reckon by comparison, never less than thirty hours, often more than two days longer than spikes of the same variety cut at the same time not so treated. Most of my experiments were conducted with Gladioli but some of them were conducted with other flowers with the same result.

I therefore state it as a law of nature that flowers once pollenized have served their purpose and therefore the usefulness of the bloom in reproduction is ended, hence it at once begins to wither as soon as the fecundation takes place. That until the flower is fertilized, it stands forth in all its glory and beauty, seeking to attract the instruments of nature in the process of fecundation and that to remove the instruments of fecundation is to sterilize the flower and thus increase the length of its life.

Along the same line I have discovered a number of varieties that seldom bear seed and that such varieties last longer as cut flowers, because they do not fertilize and are not subject to fecundation. Many varieties of Peonies do not bear seed because of the fullness of the bloom and cannot be fertilized by the usual methods. Often plants have to be starved and weakened and in their dying efforts they become fertile and may thus be made to bear seed. This is a well established principle of plant life and is made use of even by savage tribes in the wilderness. I have seen the mango tree in the Philippines, which had not borne fruit, hacked by the natives until the trunk was chopped in a thousand places, then the tree in its dying effort to reproduce itself would bear an abundant crop. In our orchards may be seen apple trees almost in the last stages of decay, bearing abundant fruit in their final effort to reproduce themselves.

In selecting varieties for cut flowers, it is well, therefore, to select those that do not fertilize as they will last longer as cut flowers. If the varieties that will fertilize readily are made sterile as suggested, they will be longer lived as cut flowers, or for that matter in the field. If fertilization is desired cut the flower until it is in a weakened condition or by planting the bulb or root in such soil as will starve it and in its effort to reproduce itself, it will fertilize or will accept pollenation and thus seek to reproduce itself.

A Few Hollyhock Suggestions.

Among the highly-prized, old-fashioned perennials, there is no flower that will take the place of the Hollyhocks. There is a richness of color, ranging from the brightest yellow and red to pure white, and a sturdiness about these old-style flowers that have made a lasting impression on everyone who has had them, and especially those who recall the early days, with all the charms of the old country home.

None of these old-fashioned flowers will yield more readily to a few modern touches to improve the rich display more quickly than the Hollyhock.

In the olden days they were too often neglected, and simply allowed to grow and scatter their seeds for future plants. Now, with rich sandy soil, and an occasional application of well rotted, stable manure, these perennials will produce much larger and finer flowers than when neglected.

To secure the best results the seeds should be sown in June or July, and the small plants cared for in such a manner as to prevent being choked out by weeds and grasses, and then in autumn, when the plants have five or six leaves, they should be carefully lifted and transplanted to their permanent locations.

They should be used as a background for lower plants, or for a screen to obscure some unsightly object, and should be planted from two to three feet apart.

The soil ought to be rich and somewhat sandy, and stable manure should be spaded into the lower portion of the soil which should be at least a foot in depth. The subsoil should be such as to permit of good drainage, not allowing the upper earth to remain wet or soggy during early spring. Stakes can be used in the rear of the heavier stalks to help sustain the masses of fine large flowers.—J. T. T. in *Successful Farming.*

Weather conditions during 1920 seem to have been ideal for Hollyhocks. Hollyhock blight, which seems to stop the blooming early in the season, most years, was not generally prevalent.

Hydrangea Paniculata Grandiflora.

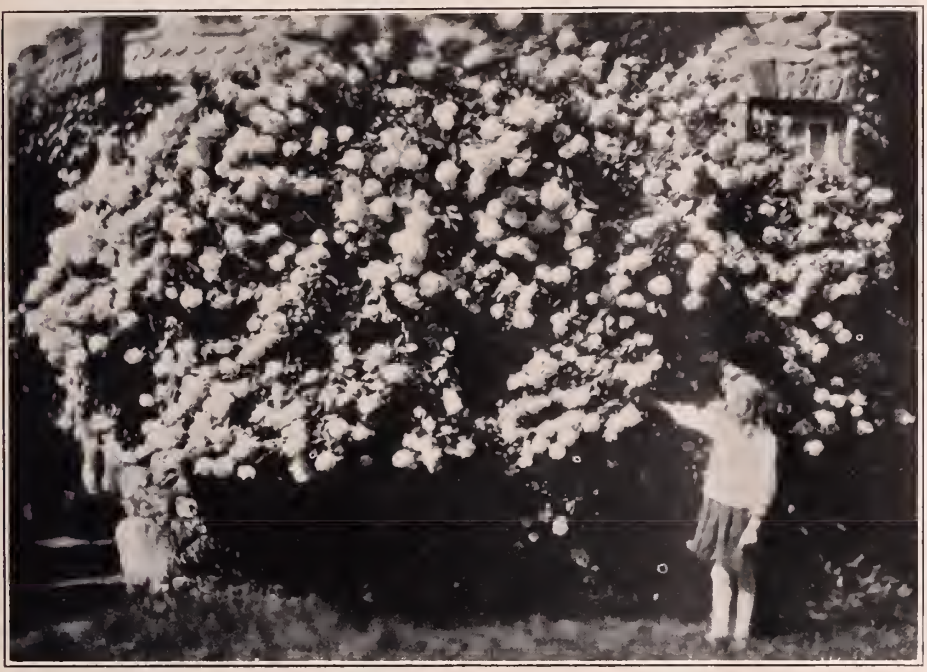
By Bertha Berbert-Hammond.

[*Written expressly for The Flower Grower.*]

WITHOUT QUESTION, the Hydrangea Paniculata Grandiflora introduced from Japan in 1874, has proved to be one of the finest (if not the most desirable) of hardy flowering shrubs. It is invaluable either as a single lawn specimen or for massing in the shrubbery border, and is often most effectively employed as an ornamental hedge plant, for it can easily be kept within any allotted bounds by severe pruning. It has such vigorous roots that the shrub can be cut down almost to the ground without harmful effects.

In training this shrub to be grown as a standard it is the customary proceeding to cut down nearly to the ground, a vigorous young plant, allowing only one shoot to develop. The next spring the top is again cut off and only those branches that will give the plant good form are permitted to grow. When grown in natural form in rich, moist soil in a partially shaded location the shrub will rapidly develop into a sturdy bush of considerable size and from August until heavy frost bear a mass of conspicuous bloom so dense as to nearly conceal the handsome foliage. The flower-clusters often measuring as much as a foot across, borne at the tip of the numerous branches are at first white in color, turning later to a pinkish tint and as the season advances, assuming greenish and bronzy pink hues. These bronzed flower-heads are highly prized by some persons, for use with dried ornamental grasses and bright autumnal berries for permanent winter bouquets, as when gathered before they fade the panicles retain perfectly for months their beauty of coloring and form.

An unusually fine specimen of Hydrangea growing near the northeast corner of my summer home displaying by actual count more than three hundred and fifty panicles of bloom, many of them of immense size, has been commanding much admiration and favorable comment. Aside from slight trimming and thinning out of weak branches each spring, this superb shrub is permitted to grow in a natural manner. If one desires fewer and much larger blooms they may be obtained by a severe pruning of the shrub in the spring before the buds have formed. Many of the branches thus trimmed off, if plunged into moist, sandy soil, in a shaded place will soon produce new plants of blooming size. Plants bloom profusely when so small that young shrubs of this hardy variety are often used as ornamental tub-plants in hall or on the veranda in place of the tender varieties of H. *Otaksa* which have long enjoyed popularity for summer porch decoration.



A specimen Hydrangea Paniculata-Grandiflora growing on Mrs. Hammond's grounds at her summer home "The Castle." The size of this plant may be gauged by comparing it with ten-year-old Melvina Hammond who appears in the photograph.

The hardy Hydrangea delights in a rich, rather moist, shaded situation. If planted in a dry place fully exposed to the hot glare of sunlight, its growth may be stunted and the bloom be inferior in size and quality.

This handsome shrub is perfectly hardy in the north, vigorous in growth and extremely floriferous. It is of very rapid growth, blooms when flowers are usually scarce and thrives in any kind of garden soil in an almost sunless location. Possessing all these and other desirable qualities, the hardy Hydrangea easily ranks first among the most satisfactory of our ornamental, flowering shrubs, and richly deserves its wide spread popularity.

Were I limited by size of grounds or purse to but one shrub, without hesitation my choice would fall on Hydrangea paniculata grandiflora, the grandest of autumnal blooming shrubs.

In Autumn.

The Milkweed spreads its silky down,
  The Golden Rod glows all in yellow,
The faded leaves come tumbling down,
  The russet fruit hangs ripe and mellow.

—*Melvina Berbert Hammond*, aged 10 yrs.

A Flower Lover's Basement in Winter.

My curiosity took me over to my neighbors one evening, and instead of calling him from his work I went down to his work room. Here I found in a cool, unheated basement room lighted only by a couple of windows, quite a few growing things and quite a few things simply sleeping. Here were tender Hydrangeas not quite dried up but kept just moist enough so that the buds should not shrivel, veranda pots of Geraniums, Wandering Jew and Periwinkle, not growing, but with just enough light and water to keep most of their leaves; pots of Parsley looking fine and green, as well as dishes of paper-white Narcissus making roots and waiting their turn to be brought upstairs. In dark, cool corners the cut stems of Cannas and "Red Hot Pokers" projected from heaps of sand. Other boxes and barrels held Dahlias and Caladiums, and in a cool, dark closet adjoining he showed me paper bags of Gladiolus bulbs and on a high shelf a row of Hyacinth glasses in which the long, white roots had reached the bottom of the glasses and the greenish yellow sheaths of the flower stalks were showing well above the bulbs. In a couple of weeks they will be ready to be brought into the light. Here also he had his pans of Dutch-Roman Hyacinths making root-growth, but beginning to show flower-spikes. The temperature was between 40 and 50.—*Wisconsin Horticulture.*

Effect of Low Temperatures on Plants.

We understand that the U. S. Department of Agriculture, Bureau of Plant Industry, has been or is making a rather elaborate series of studies or tests in connection with the process known to gardeners as the "hardening off" of plants. The tests are made by exposing the plants to artificial low temperatures, (but not such temperatures as will destroy them) to increase their hardiness or resistance to cold. A plant becomes more resistant as the sap becomes more concentrated. If a change in reaction does not go too far, the cell structure of the plant recovers. The chemistry of the freezing of plants by damaging low temperature is rather obscure, but the physical changes are well understood. Sudden thawing after freezing is most destructive. The cell structure of organic matter (plant and animal substances) will withstand considerable freezing or low temperature if it is not exposed to sudden changes to a higher temperature or the heat of direct sunshine immediately thereafter.

The Resting Period of Plants.

No matter how successfully summer flowering bulbous and tuberous-rooted plants may have been grown, or what their appearance during summer may be, this is no criterion of the grower's ability to grow them to perfection, unless he is capable of doing this every year. It is a more difficult matter to successfully store away the bulbs and tubers and to care for them over winter than to grow them. This may be proven by the large numbers that die during the winter resting period. Therefore to successfully bring them through the winter is really the criterion of ability in the culture of these subjects.

Many forget that bulbs and tubers live during the resting period as during summer. The difference is that they are not visibly growing, though actually they are. Even in dormancy certain essential changes take place, the only difference being that vitality is reduced. This resting may be likened to the sleep of a person. Surely by no stretch of the imagination can we regard a person in this state as dead. Once the grower of bulbous and tuberous-rooted plants becomes impressed with the idea that he is not handling dead, worthless things, he will give them proper living conditions even during winter, when it is necessary for them to rest or "sleep."

Another important thing we are apt to forget is that the summer flowering bulbous and tuberous-rooted plants we store away during winter are all, or nearly all, tender exotics, and, therefore, not being hardy they cannot stand the low winter temperatures, as do our native plants.

The two important things then to bear in mind are, that bulbs and tubers during their winter's rest are alive, though dormant, and that the reason we store them away is that they are too tender to withstand low temperatures, or that other outside conditions are unfavorable for their preservation over winter.

Bulbous and tuberous-rooted plants vary greatly in their requirements even during their "sleeping" period. They must have a certain temperature, a certain condition of atmospheric humidity, and in come cases a certain condition of the soil or other medium in which of necessity they must be stored. It is not sufficient merely to throw the subjects into a box or shed.

A certain temperature is necessary for all plants to live. Tropical or sub-tropical plants require a greater degree of heat during their growing and resting periods than do temperate plants at these respective times. As the temperature falls below normal during the resting period vitality is correspondingly reduced, and if, in the case of tender subjects, the temperature falls very low (even if it does not freeze) and remains so for a considerable time, death may ensue. Perhaps you have known of tubers of Cannas, Dahlias and Elephant's Ears (Caladiums), tuberous Begonias, Gloxinias and a host of others which in spring, on removal from storage, were found to be dead, although the temperature did not fall to the freezing mark. All other conditions being right, the tubors died because the temperature was too low over a prolonged period to allow the plants to live. The metabolic process, that, briefly, being the chemical change necessary to the life of the plant, could not take place at the low temperature.

Just as the temperature may be too low, so it may be too high for bulbous and tuberous-rooted plants during the winter resting period. A person cannot sleep or rest in a temperature which approaches the heat of his blood. This unnatural condition excites and produces a state of restlessness which cannot be overcome until the temperature is lowered, so it is with the Cannas and other bulbous and tuberous plants. A high temperature will excite the metabolism and growth will commence at an unnatural time, with consequent injury to the subjects. From these remarks, it will be seen that somewhere between the extremes of heat and cold there is a temperature just right for the welfare of our subjects when they are in a state of rest.

Some bulbous and tuberous-rooted plants require a dry atmosphere in their storage place, others a normal one. Bulbs or tubers of a firm texture like the Gladioli and tuberous Begonia require the former, while tubers of a succulent nature like the Dahlia, Canna, Elephant's Ear, and Gloxinia require the latter. Were the last mentioned subjects stored away in a room with a very dry atmosphere, their cells would quickly lose their moisture, the cell walls would collapse, and the tubers would shrivel and become useless. Such is a very common occurrence, though easy to obviate.

Were it possible to have the atmosphere just right and just sufficient moisture therein, it would not be necessary to store many subjects in soil, sand or other material. In all cases, however, where the atmosphere is very dry, it is the safest practice to cover the bulbs or tubers with some material to prevent the excessive escape of moisture from their cells. Generally sand will be found excellent for the purpose, but in no case should the crowns of the tubers be buried, or bulbs be covered to a great depth. It should not be forgotten that it may be necessary to occasionally water Cannas, Caladiums and Dahlias in a dry position, even when covered with sand, and if the crowns are below the surface water will penetrate and cause the tubers to rot. Watering should not be done in any case as long as the tubers are plump and hard, but as soon as the first signs of shriveling occur, delay in this respect will be dangerous.—*The Canadian Florist.*

Late Fall in the Flower Garden.

By Eben E. Rexford

(In *Country Gentleman*)

We are inclined to put off the work which needs to be done in the garden in late fall until the weather becomes so disagreeable that we either let the work go undone or do it in such haste that it is only half done. As a natural consequence such plants as require winter protection are pretty sure to suffer severely, and are often killed outright. This being the case, the importance of doing the work while it can be done leisurely enough to insure its being well done cannot be too strongly emphasized. It is safe to count on continued cold weather in the North after the first of November, and hence it is advisable to give such protection as is needed about that time.

I am a firm believer in the benefit of protection for all our plants, whether tender, half hardy, or entirely so, because our long and severe Northern winter so taxes the vital force of all plants in their efforts to resist its debilitating influence that even the hardiest of them suffer to an extent that greatly lessens their usefulness. Therefore I have for many years made a practice of giving protection to all the plants in my collection. By keeping the frost in after it has gained entrance all injury to delicate roots is prevented because there is no alternate freezing and thawing, consequently no heaving of the soil after the first touch of cold weather—and as long as the ground remains frozen no harm will be done to comparatively tender plants. The impression seems to prevail that we give protection in order to keep out the cold. This is a mistake. The cold cannot be kept out, but we can prevent the warmth of the sun's rays from extracting the frost, and this is what we aim to do in protecting our plants. We aim to prevent a change in their condition, because frequent changes from freezing to thawing are responsible for the injury done during winter.

I find no other covering quite equal to leaves. They are Nature's covering, and we cannot improve on Nature's plans. If there are trees about the house rake up their leaves as they fall and store them in a dry place against the time of need.

Before applying any covering, cut away the old stalks of all perennials. Then heap the leaves, or whatever is made use of as a substitute for them, about each plant. When this is done cover with evergreen branches, if leaves are used, to prevent their being blown away. Lacking these branches, make use of squares of coarse-meshed wire netting weighting each piece at the corners, or fastening it in place with stakes. Let there be a depth of five or six inches of leaves to each plant, if the supply will admit it.

When leaves are not obtainable coarse litter from the barnyard will be found an effective covering. It can either be removed in spring or dug into the soil about the plants to act as a fertilizer. If it contains considerable manure it will furnish all the elements of nutriment required by the plants for the season.

Neatness should be a feature of the garden the year round. Gather up the old stalks of perennials and leave nothing unsightly to make itself conspicuous above the snow in winter. Take in the trellises, or whatever has been used as supports for plants during summer. and be sure to stow away in a sheltered place the tools which have been made use of in the care of the garden when in its prime. A garden neglected after the close of the flowering season always gives me the impression of a friend from whom we turn away when he can be no longer useful.

If there are any plants or shrubs whose merits are not sufficient to warrant their retention the fall is a good time to dispose of them. Dig them up, and fill the places they have occupied with rich soil, thus preparing in advance for whatever is to take their places. It is a most excellent plan to do as much garden work in fall as is possible, thus preventing the rush which comes in the spring.

Pansies require but slight covering. I simply scatter an inch or two of leaves over them, and then lay on evergreen branches to hold them in place. While the Hollyhock is a hardy plant, it is sure to be greatly injured if water stands about its base. To prevent this I bank up each plant with earth in such a manner as to turn aside the water from melting snow and early rains. Once it gets a good start in spring it will take care of itself, so far as excessive moisture is concerned, but this must be guarded against in fall and winter if healthy plants are expected. Where there is too much water the thick leaves of the plant absorb it, and decay sets in, which is sure to be communicated to the crown of the plant, often resulting in its death and always in its injury.

Catalogues and Price Lists.

Lee R. Bonnewitz, Van Wert, Ohio. Circular on rare Peonies offering one eye divisions.

T. H. Hughes, 78 Brownell St., New Bedford, Mass. A very select list with unusually complete descriptions.

F. R. Sawyer, 352 West St., Mansfield, Mass. Price list of Gladiolus bulbs. A fine selection of varieties with good descriptions, priced per dozen and per hundred.

Homer F. Chase, Wilton, N. H. 1921 trade price list of Gladiolus bulbs. A limited number of varieties, but of exceptional merit.

C. C. Wright, Kendallville, Ind. Retail price list of Gladiolus bulbs. The standard varieties and novelties, also *Primulinus Hybrids*.

Lee R. Bonnewitz, Van Wert, Ohio. Illustrated circular, "The Story of the Elwood Pleas Peony in my Garden." The illustrations are especially fine.

Plants That Will Do Well in the Shade.

WHAT shall I plant in the shade that will do well? is a pertinent but vexed question not so easily and readily answered because so much depends on what causes the shade—whether it be buildings or trees and, if trees, kind of trees.

If it were but mere shade to be contended with there would not be so great a trouble to establish plants, but unfortunately shade is more often than not accompanied by an extremely impoverished condition of the soil as well as an insufficiency of moisture. This condition is usually created by the presence of many hungry roots of adjacent and overhanging trees.

'Neath such trees as Beech, Elm, Maple and other surface-rooting ones, it is difficult indeed to get any form of plant life to grow, except Moss, unless special measures are taken before planting and extra treatment afforded the plants afterward. The soil in every case should be cultivated and relieved of much of the surface roots. Additional top dressing of rich soil is also necessary, while a yearly mulching with manure will tend to give the plants the necessary chance to compete favorably for position and to make good.

Under trees, the roots of which penetrate deeply, like the Oaks and Hickories, conditions are more favorable and there is consequently less difficulty in getting plants to thrive. Such trees, when used on lawns, rarely kill the grass beneath them—a point worth remembering—especially when the choice of a tree for a small lawn is to be decided upon.

Trees like Silver Maple and Norway Maple have become the bane of the small lawn, the combination of dense shade and surface roots having transformed what was once a pleasing greensward into a barren brown waste which in winter may aptly be termed a mud yard. To remove the tree after it has reached large proportions is a step which the owner hesitates to take and yet a good lawn under such trees rarely exists.

Another position that is perplexing to the planter is one surrounding the base of a dwelling of the Dutch-Colonial and Old American farmhouse style of architecture on account of the usual overhanging eaves. Here insufficient moisture is the chief drawback, and whether the position be on the shady side of the house or not it is a case of supplying the plants with moisture the first year —and plenty of it—with the garden hose. Of course, by using the right plants in such a position much after-care is eliminated.

It rests largely, then, on the choice of plants for all of these difficult situations as to what success is attained. It must be said that for plants which best stand shaded conditions our widest field to draw from is among evergreens, the ones which come under the broad-leaved class being the best.

We make no mistake when we head the list with the Rhododendrons, domestic and exotic. How often have we recourse to them to mass in portions of a woodland or to surface some bare tract under shade trees! For this purpose they have proven especially adapted. As is well known, they are essentially surface-rooting plants and, for this reason, have a better chance to secure sustenance from the fallen leaves of the trees that overhang them and any additional mulching given them.

Companion to the above is the common "Mountain Laurel," Kalmia latifolia, and very often it is used in conjunction with them.

The hardy Azaleas, both evergreen and deciduous, are largely drawn on too, the best for shade being Azalea undiflora, calendulacea, Vaseyi and Amœna. The three former ones are deciduous native kinds often collected from their native haunts to fill similar positions under cultivation. Azalea amœna is the hardiest of the evergreen kinds and, though an exotic, is raised in this country by the thousands from cuttings. Other members of the Azalea family which do well in partial shade are Azalea pontica, mollis, viscosa, indica alba, and Kaempferi.

Still other plants of the same natural border that fit in with shaded conditions are the Andromedas, beautiful low-growing plants of good foliage and with pure white flowers in the early spring. The three most commonly used are Andromeda japonica, floribunda and Catesbæi.

All the plants in this ericaceous group, to be most effective, should be used in quantity, for they are really social plants and love to be massed together. A position shaded from early morning sun is best for them because in winter the leaves, after being frozen hard, become browned if thawed out too quickly by the action of the sun.

The two forms of evergreen Barberry, Mahonia aquifolia and japonica, are admirable plants for that shady spot, as is also the Japanese Holly, Ilex Crenata. It is true we will get the Mahonias to flower or fruit quite so well as in sunlight, but the foliage will be better looking, the leaves of Mahonia aquifolia turning a bronzy red color in the winter.

For that position on the shaded side of the residence where formal plants are in keeping, use the Box Bush and the Yews in variety. Especially hardy and fitting for extreme shade is the native Yew, Taxus canadensis, its spreading habit forming a splendid ground cover.

Where a real low ground cover is needed, as in the case of bare areas under lawn trees, pergolas, porte cocherès, etc., there is nothing better than the Japanese Spurge, Pachysandra terminalis. In this little herbaceous evergreen plant there is a certain charm and neatness of foliage rarely found in ground cover plants. Being very hardy and having a stoloniferous root growth, it soon takes possession of the situation and forms a complete and lasting green carpet.

The number of deciduous shrubs that thrive well in shade are comparatively few in contrast to those that require good sunlight. —EDWIN MATTHEWS in *Florists' Exchange.*

Begonias and Their Culture.

WM. HARTRY, SEAFORTH.

(*In Report of Canadian Horticultural Societies.*)

Begonias may be divided into three classes, namely: Rex, Fibrous, and Tuberous rooted.

The Rex give but little bloom, but their foliage is most beautiful, ranging in color from light green to a variegated bronze, and with proper pruning may be kept beautifully shaped plants, for house decoration, especially in winter when plants are scarce. They do well where there is but little or no direct light; hence they are valuable where there are no sunny windows, but they want heat and fresh air.

They start from a leaf readily. Take a fresh leaf with stem about three to four inches long, bury in sandy soil until the leaf rests on the soil, then cover all the leaf except a small portion just above the stem with same soil. Keep moist and warm and they will soon shoot new leaves from the centre of the stem.

The soil should be rich leaf mould, with some sand and good garden soil. Use liquid manure during growing season once a week.

Fibrous Rooted.—This class is now a large one and may be obtained at most greenhouses. They are grand for winter bloom, many of them fairly smothered with blooms. Soil same as for Rex, but use slips or cuttings to start plants.

Tuberous Begonias.—It is of this class I wish to speak more particularly to-day.

Unlike the Rex or Fibrous rooted they are a summer-flowering plant, and may be grown either in pots or in a bed in the garden.

There is no plant that will supply so gorgeous a bed as these Begonias from June 15th until frost sets in. They vary in color from pure white to a deep dark red, both single and double flowers from two to six inches in diameter. They are splendid as a cut flower. The flower with a portion of the stem and leaves placed in a shallow dish with moss and water will last good for three or four days.

Perhaps the greatest difficulty with this class is the starting of the bulbs, to grow which, however, is easy when understood. Bulbs may be secured from almost any good seed house.

The bulbs may best be started in March or April by securing a water tight box, big enough to hold the required number. Place about three or four inches of moss in the bottom of the box, then place the bulbs on this moss and again cover the bulbs about 1½ inches with moss. Put in a warm place, keep moist, and see that they are right side up. They will soon send roots into the moss and shoot up through the top layer of moss.

When bulbs have well started, say about two or three inches high, transfer into boxes of loose, fine, rich, bush soil. Keep well watered and in a warm place where the sun does not shine on them directly. Now get your bed ready, and plant about June 15th.

An ideal situation is the north or west side of a house or closed fence, where they will get the morning or evening sun. Make the bed one foot deep, of good sandy leaf mould, well rotted manure, and good garden soil —equal parts—and work up the bed several times before setting out your started bulbs. Place about 16 inches apart each way, water with rain water if possible. When plants begin to bloom, give, once a week, a good watering of manure water, about as strong as ordinary tea in color.

As soon as frost appears take up the bulbs with adhering soil, put into boxes of sand and keep in a warm cellar free from all frost.

Follow these directions and you are sure to succeed.

Berberis Thunbergii.

As a hedge plant Berberis Thunbergii is so universally known and advertised that its merits as a shrub are almost altogether overlooked. In this respect it is one of much beauty and grows to a handsome outline with no aid from man. This shape is of a rounded outline, and it becomes of a dense nature when left quite alone. This is not saying the pruning knife never comes near it, for the plant is often set out to fill a certain space and then it is that it may be cut back and it will show no resentment.

The small, neat foliage of this Berberis appears early in Spring and is held until late in Fall. Its small, white flowers appear early in Spring as well, and then its display is fully the equal of many other shrubs set out for their flowers alone, although this Berberis has not finished its display at that time, by any means. There is its berry display to follow, these berries ripening in Summer. They are red and persist on the bush until the next Spring, at least in great numbers. As may be imagined when the berries ripen, the bush is a beautiful sight.

With Autumn the leaves change to crimson, which, with the foliage, gives a mass of lovely Autumn color. Later in the Fall, though the foliage disappears, the berries do not altogether, as aforesaid, and often after the new leaves of Spring have formed one may see here and there the red of the berries. Until one gets accustomed to it the red color is often taken to be from some flower. —*Florists' Exchange.*

Queries and Answers Department.

"All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication."

Time to Dig Gladiolus Corms.

To the Editor:—

How soon after blooming can Glads be dug? I have considerable space in Glads which I desire to use as soon as I can get them out of the way, for hardy plants. Must I wait until after frost or can they be dug as soon as they have bloomed?

Harry H. Turner.

Answer—No specific time can be given at which to dig Gladiolus corms, but it may be generally stated that they may be dug when the foliage begins to ripen or brown and they may also be dug 30 to 60 days after blooming. It is not necessary to wait until after the frost and sometimes it is detrimental to wait so long. Leaving Gladiolus corms in the ground late in the fall results in greater gain in number and size of bulblets, but in case of wet weather it is possible that the corms may be damaged to an extent which will induce rot. October is, without doubt, the best average month for digging, but where one has considerable quantity it is quite proper to start digging bulblet grown stock the first of September or even earlier. Bulblet grown stock should not be left until the foliage ripens as it is very difficult to dig then. It is convenient to use the foliage in lifting.

It is not best to dig Gladiolus corms as soon as they have bloomed. At that time the new corm is small and undeveloped and they should be left at least 30 days, generally speaking before digging, and 60 is preferable in some cases. Although an immature corm may keep well in storage and grow another season it will not produce as useful a flower spike as it would if fully developed and besides few bulblets will be secured if dug directly after blooming.

Do Gladioli Revert—
Excessive Tinting of Gladioli.

To the Editor:—

Do Gladioli revert or change color from one year to another? I have a variety which I have raised from seed and of which I now have 20 bulbs. Last year it was all I could expect. It is (or was) a very pretty salmon rose-pink with a lavender picoteed edge. A fine plant, of sturdy growth, having a spike that carried 20 buds, with five to seven well placed flowers wide open at a time.

This year most of the bulbs had flowers with the lavender or blue, carried well into the petals, producing a result that was not near as pleasing as the original. The growth was healthy and no signs of disease apparent. I cannot account for this by any weather or soil condition as this did not occur with other Gladioli growing alongside.

The next concerns the increasing of propagation. This spring I accidentally broke off the tops of two Gladioli after they had started to sprout, and before they showed above the ground.

The bulbs were planted about six inches deep. After the tops or shoots were broken off the bulbs were left undisturbed and one afterwards sent up 3 new shoots and the other (a *Schwaben*) sent up 11 new shoots which means 14 new bulbs from the original two.

Is this in keeping with the incident that is told of mice eating out the ends of Hyacinth bulbs for the Dutch bulb growers and thereby was learned the way of increasing the propagation of these bulbs? Has this method ever been tried with Gladioli?

C. E. Oldacre.

Answer—This year there has been an unusually large number of complaints about excessive tinting. Many varieties that are ordinarily considered white have tinted to such an extent that they have hurt their reputation as white varieties. This has been true in our own garden, and but few of the so-called white varieties have been really white this year. Varieties which are not white, but are light in color also show much more color or deeper tint than usual. We attribute this to weather conditions, but we are not able to tell why certain weather conditions should give greater tinting than others. We have found that with a considerable quantity of available potash in the soil that varieties tint more, and we have also noticed that where weather conditions were inclined to be tropical, resulting in a forcing of unusually rapid growth, that the Gladiolus will tint more.

Your observation from the accidental breaking off of sprouts of Gladioli would lead to the deduction that the stopping of growth in the strong eye or eyes in a Gladiolus corm might result in stimulating the other eyes to grow and it might be that acting on your discovery would result in securing much more rapid propagation of Gladiolus varieties which make few bulblets and do not divide naturally.

Would recommend that you plant those eleven divisions of *Schwaben* separately and see what the result is in 1921. It will be interesting to know whether they will bloom and do as well as corms resulting from growth which did not divide.

Referring to the question of reversion: We do not understand that Gladioli actually revert to former type, but we are not aware that this question has been answered with absolute certainty and additional information is surely desirable along this line.

So far as we know the breaking off of sprouts from Gladiolus corms to increase propagation has never been resorted to commercially and it may be that you have discovered something that will be helpful in connection with varieties which are slow to increase.

Madison Cooper.

Growing Gladioli From Seed.

To the Editor:—

I am an amateur in the cultivation of Gladioli and have been cross pollenizing some to see what result I can get. I would be pleased to know if I can plant the seeds obtained from this cross when they are well dried out, grow them in my conservatory to mature bulblets by spring, and then plant them in the open field; thereby gaining a year's growth; or will I have to wait until spring to plant the seeds, harvest the bulblets in the fall and so on for two or three years before I can see them bloom?

C. C. T.

Answer—Seeds of the Gladiolus may be planted any time after they are well dried and the method you suggest of growing in greenhouse during the winter so as to save a year's time has been utilized by some growers. The growth resulting from Gladiolus seed is really a bulb or corm and not a bulblet or cormel, strictly speaking. Cormels or bulblets are off-sets from the large or parent corm and the growth resulting from a Gladiolus seed is a small corm and not a cormel. Therefore, these little corms should be treated as such and ripened off and dried and given a reasonable rest before planting. There may be some difficulty in getting healthy growth from seed planted, and grown when the period of sunshine is short as it is during our northern winters, but if good growth can be had it will surely save a year's time by following out the plan you suggest.

Origin of Varieties.

In answer to inquiry in the August issue of The Flower Grower:

Alice Carey—Credited to E. Y. Teas by J. K. Alexander and Willis E. Fryer.

Black Hawk—Named by G. D. Black who obtained it intermixed with Kunderd's *Cardinal King.*

Fire King—Introduced by John Lewis Childs, Flowerfield, L. I.

Mrs. James Lancashire—Named by B. Hammond Tracy, but said to be the same as *Fairy*, originated by E. E. Stewart.

White Cluster—Originated and named by Mrs. A. H. Austin.

Dominion—Originated by H. H. Groff, Simcoe, Ont., doubtless synonymous with *Red Emperor* named in Holland, but of which stock was probably obtained in America.

Chas. E. F. Gersdorff.

We have in hand material for valuable articles, which has been sent us by our good friends and which only awaits sufficient time and attention on our part to put into shape for publication. We make this statement as a public apology to those to whom we are indebted for the valuable material that they have furnished us. We are organizing our other lines of work in such shape that we can give closer attention to The Flower Grower and its requirements. The task of selecting and arranging material of real merit which comes to us is no small job and the time required is not always available just when it should be.

Gladioli in the Floral Department of the Great New York State Fair.

This year (1920) the entries in both the commercial and non-commercial classes were much larger than ever before and since the Editor began showing about eight years ago the entries have doubled and quadrupled. Gladioli are certainly gaining rapidly in favor every year.

At present the floral department at the State Fair is in the immense Manufactures and Liberal Arts Building, adjoining the fruit department, but it is hoped that a new and modern horticultural building to house the floral and fruit exhibits will be available within the next year or two.

A generous prize list is offered, which is revised and added to and made more attractive from year to year, both in the professional and amateur classes.

OUR BIRDS

Birds that Destroy Noxious Insects.

By Mrs. O. A. Runyon.

[*Written expressly for The Flower Grower.*]

Most birds are to some extent insect eaters, but many species live almost entirely on insects. There is no doubt but what the combined attack of many birds keeps this earth from becoming a barren habitation.

The Bureau of Entomology estimates the loss of the apple and pear crop from the codling moth alone to be over $12,000,000 annually. Try to estimate the amount of time and money lost trying to control this pest, and it will run into a very large figure.

I have many times seen woodpeckers drill through the bark of an apple tree and pull out pupa and larvae of the codling moth. The woodpecker should take first place as a destroyer of moths, larvae and pupa of all the borers, as they stay hidden and only the sharp ear of the woodpecker can discover their hiding place. He seems to know before he begins that he will find something good to eat. I suppose he knows by tapping if there is an insect beneath. I have seen the downy woodpecker extract a codling moth from an apple on the tree; he was without fear as I had fed him suet on the same tree all winter before.

A red-headed woodpecker has been clearing away the bark and dead wood from the side of an old apple tree that appeared sound and from the worm dust and cocoon webs, he has devoured enough borers to destroy a whole orchard.

The red-shafted flicker will begin at the ground and search a tree, with his sharp eye, limb by limb till very few insects or eggs escape him.

There has come under my observation many species of birds catching moths and other insects on the wing, but I believe the swallow family and especially the king-bird not only catches insects on the wing, but searches the ground and bark of trees.

The oriole, sparrow, vireo, warbler, thrush, kinglets, robin, bluebirds, cardinal, cat bird, mocking bird, meadowlark and cuckoo all feed their young on insects. One can easily see the value of bird-nests in the garden and orchard. The yellow-bill cuckoo will consume more hairy caterpillars than any other bird I know of.

I have observed this year, thirty-nine species, belonging to eleven different families, that are insect eaters. Birds are recognized as effective natural enemies of insects, but exaggerated claims should not be made, but it can be truthfully claimed that their influence will reduce the number of insect pests. The amount of good done varies in different places, but we will all agree that birds should be protected and encouraged in recognition of their faithful services. Birds should be protected not only for their faithful services but for the interest and inspiration which they bring.

The French Love for Flowers.

"Aren't the French odd?" queried an observer the other day. "In spite of all their suffering and while they are yet in the midst of their agony, they still hold their wonderful Rose show each year at La Bagatelle, and the French women, even the poorest, cherish their little window boxes and flower borders more than ever."

Odd? Was it then just a foolish and expensive habit—those window boxes in the cottages? Was the Rose show only a vanity show? Was John Fiske odd when he wrote "I often think, when working over my plants, of what Linnaeus once said of the unfolding of a blossom, 'I saw God in His Glory passing near me, and bowed my head in worship' "; was Wordsworth odd when in the midst of the beauty of nature's garden he "felt a presence that disturbed him with a joy of elevated thoughts, a sense sublime of something far more deeply interfused"?

Well, perhaps, but we would rather believe that they are odd who cannot understand how God whispers to some of us from the hearts of Violets and Roses; who have not walked with Him in a garden; who do not know the sense of comradeship with Him that comes as we work with spade and hoe with the eternal forces of life in earth and air and sunlight. There is a spiritual solace in gardening and thank Heaven the French have it so abundantly.

We Americans are learning year by year more of the genuine value of that solace, but its riches have only been touched.—E. Fred Eastman in *Garden Magazine.*

One of our subscribers suggests that wood ashes may be used to advantage in preventing rust on Hollyhocks, but does not state how it is supplied. Think probably that if the soil is pretty well treated with wood ashes that it will have a strengthening effect on the plant, but hardly see how wood ashes can be applied to the foliage with any success.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, Etc., OF THE FLOWER GROWER, published in accordance with the Act of Congress of August 24, 1912; Publisher, Madison Cooper, Calcium, N.Y.; Editor and Managing Editor, Madison Cooper, Calcium, N.Y.; Owner, Madison Cooper, Calcium, N. Y.

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(Signed) Madison Cooper.

Sworn to and subscribed before me this 5th day of October, 1920.

(Signed) Margarette M. Hendricks, Notary Public,
[Seal] Jefferson County, N.Y.
Commission Expires March 31, 1921.

CLASSIFIED ADVERTISING.

Five lines (about 40 words) $1.50 per insertion. Additional lines 20c. each.

GLADIOLI

I HAVE small quantities of the following varieties to close out at bargain rates which will please you. Let me know which ones you are interested in and I will advise quantity on hand and price I will take for them: Aeolian, Alhambra, Atherton, Blue Isle, Blue Jay, Blue Orchid, Cardinal King, Cherry King, Corunna, Daisy Rand, Jean Dieulafoy, Empress of India, Estella, Fair Columbia, Golden King, Mary Fennell, Kunderdi Glory, Orange Glory, Rose Glory, Panama, Papilio Rose, Early Pendleton, Pink Lily, Princeps, Rita, Rosebud, Silver Star, Splendorra, Wamba, Albia, Argo, Canopus, Capella, Dexter, Gold Drop, Myra, Primulinus, Regulus, Rigel, Salmon Beauty, Sedan, Silvis, Sirius, Spica, Tupelo, Arcadia, Arcola, Delphi, Dunlops, Storm King, Quartinianus.

Also have large quantities of the following. Ask for price list of all sizes: Afterglow, Albion, America, Angola, Black Hawk, Crackerjack, Faust, Halley, Herada, Hulot, Intensity, Mrs. King, Linton, Loveliness, Peace, Peachblow, Pendleton, Roanoke, Schwaben, Sweet Orra, Alice Tiplady, War, Gretchen Zang.

Gladiolus Bill, Clyde, Ohio.

100 KUNDERD VARIETIES of Gladioli—Selling has begun early, Some stocks ample, others very limited. Address, as long as they last,

R. C. H. Lenski, 2273 E. Mound St., Columbus, O.

SURPLUS GLADIOLI—One-half inch and up—America, Baron Hulot, Schwaben, Chicago White and some others at $2 per 100. Good mixed stock at $15 per 1000. All bulblets at $1 per 1000.

V. G. Hostetter, Bowling Green, O.

FOR SALE—Surplus Glad. bulbs. First size at $20 per thousand—America, Velvet King. At $30; Panama. At $5 per hundred Golden King, Pink Perfection, Jean, Niagara, Schwaben. At $1 per doz. Mrs. Watt, Rouge Torch, Peace. At $1.50 per dozen. Liebesfeuer, Mary Fennel, Europa. Crimson Glow, 50c. each; Red Emperor, 25c. Bulblets at 75c. per thousand America, Velvet King, Mrs. King and Halley. At $1 Golden King, Panama, Pink Perfection, Peace, Schwaben, Jean, Niagara, Mrs. Watt.

Edgar M. Wilson, 380 May St., Worcester, Mass.

MUST reduce my number of varieties and will sell my entire stock of the following: Amethyst, Mahogany, Parliament, Peace, Pearl, Pink Beauty, Schwaben, Summer Beauty, and a few others. Send for retail list.

E. M. Sanford, Madison, New Jersey.

STANDARD GLADIOLI - Special November Offer—Priced per 100, fifty at same rate, delivery included: Crackerjack, Liberty, Meadowvale, Minnesota, $2 50; Czar Peter, Glory of Holland, Ida Van, $3; George Paul, Niagara, Panama, Peace, $4.50; Rouge Torch, $5. Thomas M. Proctor, South St., Wrentham, Mass.

NEW HOLLAND VARIETIES—Conspicuous, light blue, yellow blotch, quite a novelty. Illinois, apple blossom pink, 20c. each. Have planting sizes and bulblets. Write for prices. One each, Red Emperor, Anna Eberius, Lilywhite, Mrs. Dr. Norton, 1½ in. at $1.75, postpaid. Retail value $2.50, a real bargain; 500 Diener's seedlings and hybrids, $8 per 100; 2000 Chicago White, all sizes, will close out at a bargain. Write for lists of other varieties.

F. M. Palmiter & Son, Janesville, Wis.

THE harvest is going with a rush. The season has been a wonder. Extra fine stock, big sales, many varieties nearly sold out. As our stock will be limited it will not pay us to issue a wholesale list this season. We will be pleased to quote prices on varieties on hand both in Gladioli and Dahlias. State quantity and sizes wanted.

East Hartford Gladiolus Co., No. 65 Olmsted St., East Hartford, Ct., E. M. Smith, Pres and Mgr.

GLADIOLI—I make the following offer for fall deliveries:

Size	General Mixture	Primulinus Hybrids	Per 1000
1½ in. up	10,000	15,000	$15
1¼ in. to 1½ in.	10,000	15,000	12
1 in. to 1¼ in.	30,000	50,000	9
¾ in. to 1 in.	40,000	80,000	7
½ in. to ¾ in.	40,000	100,000	5
⅜ in. to ½ in.	60,000	120,000	2
Bulblets	10 bu.	15 bu.	qt. 1

Special discount for the entire lot. Also many named varieties in all sizes. Let me know what you want. Gladiolus Bill, Clyde, Ohio.

"SAY IT WITH FLOWERS"—but buy your bulbs now before choice kinds are sold out. We try to accommodate all, will sell one bulb or 1000.

C. I. Hunt, Nunda, New York.

Grower of the choicest Gladiolus bulbs. Wholesale or retail.

EAST HARTFORD GLADIOLUS CO.—We will book orders for fall delivery, 1920 or spring 1921, by the dozen or the thousand. E. M. Smith, Pres. and Mgr., No. 65 Olmsted St., East Hartford, Conn.

FOR SALE—Surplus Gladiolus bulbs from the fine varieties which won the Kunderd gold medal and various other prizes at the last American show.

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LABELS—Patent, paper, trees, shrub or rose label. Colors: white, green, blue and salmon. Plain or printed. A cure for those afflicted with label troubles. Samples. Ohio Nursery Co., Elyria, Ohio.

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Wanted—Any of the newer Irises and unusual perennials not in my garden.

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The Van Wert Iris Gardens
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VAN WERT, OHIO
Will have ready, about August 1st, a descriptive catalogue and price list.

You Will Need to Speak Quick
At These Prices!

Gladioli, Fall Delivery Priced Per 1000	No 1	No. 2	Bulblets Per 1000
Prince of Wales	$70.00	$60.00	$3.50
Panama	38.00	35.00	1.50
Schwaben	40.00	38.00	2.00
Red Emperor	90.00	75.00	6.00
Pink Perfection	45.00	40.00	2.50

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New crop of the native California Iris seed now ready. The most satisfactory way to grow these beautiful species is from seed. We can furnish the following six kinds at 25 cts. per pkt. or one each of the six for $1.00, viz: Bracteata, Watsoniana, Douglasiana (purple), Douglasiana (mixed), Hartweggi Australis, Missouriensis. We can also furnish a splendid mixture, including some not listed above, for $1.00 per pkt.
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Poeticus Grandiflorus—The largest of the poeticus type, and the finest for decorating.
Barri Conspicuous—Sometimes called Yellow Poeticus. Perfectly hardy, and sure bloomers. **$3.60** per 100, postpaid.
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THE FLOWER GROWER
FORMERLY
THE MODERN GLADIOLUS GROWER

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FOR BOTH AMATEUR AND PROFESSIONAL
GROWERS OF OUTDOOR SUMMER-FLOWERING PLANTS
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The Gospel of Giving Flowers.

[*Written expressly for The Flower Grower.*]

BY BERTHA BERBERT-HAMMOND.

> Freely ye have received, freely give.
> —(*Matt. 10:8.*)

As flowers are among our choicest blessings a definite answer to the mooted question, "To give or not to give flowers," may be found in Deut. 16-17:

> "Every man shall give as he is able, according to the blessings thy God has given thee."

To share one's floral blessings, is to double them as in the case of such flowers as Sweet Peas, Pansies and many other sorts, of which the more you pluck the more you have, with flowers as with other blessings—

> "He who joy would win
> Must share it
> Happiness was born a twin."
> —(*Byron.*)

> "It is more blessed to give than to receive."
> —(*Acts 20:35*)

Surely it is, therefore, a privilege to share with those who are less fortunate. Give liberally of your flowers but not ostentatiously or patronizingly. To give, with the evident desire to produce an outward show of wealth or superiority is not in good taste. The "Lady Bountiful" rolé when overplayed becomes vulgar.

Give graciously of your flowers for

> "The Lord loveth a cheerful giver."
> —(*2 Cor. 9:7.*)

In a person so selfish as to give grudgingly or even refuse, without a good and sufficient reason, a flower politely asked for by one who has none, the love of flowers has become narrow.

Give cheerfully within reasonable bounds

> "Give to him that asketh thee."
> —(*Matt. 5:42.*)

with the possible exceptions of to the chronic "flower beggars," or those who have no flowers through indolence.

In giving flowers use tact. A person with a nice perception as to fitness would not present a huge bunch of golden-crowned Sunflowers to the sweet girl graduate, a bouquet of rare and delicate orchids to a romping school boy, a flashy boutonnierre, to a sedate old lady or a sprig of mint to a frivolous youth. Neither would a person of tact expect to bring comfort to the sorrowing heart of a bereaved mother with a gift of Tuberoses, no matter how beautiful or fragrant, or endeavor to carry cheer and hope to one seriously ill, by the gift of a bouquet of all white flowers. It is not the fault of the beautiful flowers, but their general association with funerals. We are all so human that sentiment and association count for so much with us. The lovely Chrysanthemum, Queen of Autumn, so widely popular here for both outdoor and indoor cultivation, in Italy on account of associations, does not enjoy such favor in the home garden. In that country it is considered a flower of the dead and used quite generally for cemetery planting.

Give freely of your flowers to the church. Do they not all belong to Him? And are we not admonished to

> "Render unto Caesar the things that are Caesar's and unto God, the things that are God's.
> —(*Matt. 22:21.*)

GLADIOLUS—*GOV. HANLY.*

Originated by A. E. Kunderd, Goshen, Ind. A tall, early, rich cardinal red with a deeper throat color. Recommended as a first class bedding and cut flower variety.

So to the church give generously of your choicest and most appropriate blooms. A single beautiful Rose and its foliage in a dainty cut-glass vase that would be exquisite, full of charm, and quite sufficient in the home, would dwindle into comparative insignificance in the spacious dimensions of God's temple. Some flowers, like the chaste Easter Lily and the stately Calla, seem peculiarly adapted for church decoration. A beautiful, pure flower in its proper place is a sermon in itself.

> " Thou art a preacher, sweet and good
> And this low niche, where thou hast stood
> Thy pulpit, from whose tiny walls
> A sermon quaint and earnest falls."
> —(*May R. Smith.*)

Give flowers to the sick, cheerful flowers, with little perceptible odor as a heavy scent is often depressing to a sufferer. For an invalid, a growing plant *in bud* is preferable, as it is more exhilarating to the sick to watch a bud unfold, than to view the fading and dying of cut flowers.

Give flowers to the poor that

> " Ye have always with you." —(*Matt. 26:11.*)

There are many deserving flower loving persons who after attending to the pressing material wants of the family have nothing to spare for the purchase of the luxury of flowers. It is touching to see some of the pathetic attempts of poverty-stricken people, in some of our crowded cities, to coax back to health, under adverse conditions, some plant which was probably obtained through a worthy flower-mission. To pass through such a congested district with flowers is to be promptly besieged by childish appeals for them. The love of flowers seems universal in children, and through this medium it is frequently simple to bring some brightness into the hard and often cheerless lives of their elders.

The gift of a plant is a philanthropy that will not be resented by the poor but proud and its influence for good cannot be estimated. Such a gift has been known to completely revolutionize the mode of life of a slovenly family. First the window had to be washed to admit light to the plant; then the room and its scant and soiled furnishings cleaned to correspond. With the home more comfortable, pleasant and sanitary, the men of the family began to spend more of their leisure time in it until finally, due to their efforts to live up to the constantly improving surroundings, the family life was uplifted through the wholesome influence of a blooming plant. Verily, this giver proved a true missionary and entitled to the reward promised—

> " Give to the poor and thou shall have treasures in heaven." (*Matt. 19:21.*)

Give flowers to the rich, a gift of flowers is fine enough even for royalty; and often those cloyed with the lavish gifts of wealthy associates would appreciate keenly a simple gift of a home-reared plant, mothered by the tender care of the true flower-lover, and bearing that intimate, personal touch that gold cannot buy. Such a gift may bring back sweet memories of less prosperous but happier days when acquaintances were measured by true worth and not by dollars; and when the circle of friends made up for what they might lack in accomplishments and worldly goods, by hearts that were kind and true.

> " Kind hearts are more than coronets."
> —(*Tennyson.*)

Yes, many a lonely heart beats under bejewelled and silken raiment.

Give flowers to the old, though they may have lost their strength and cannot attend to flowers as in their prime, still the love of flowers with them, has been increased instead of lessened, by the accumulation of honored years. Through their many and varied associations with flowers, the old may be enabled to live over again many of the eventful incidents in their lives.

Give flowers to the young To imbue a love of flowers and a deeper appreciation of nature in the heart of a child, is to give a priceless legacy.

Give flowers to the dead. Let their cold hands hold this last token of your love and enduring esteem. Place garlands on their graves and on those of the soldier dead.

> " And bring the noblest flowers for all
> The nation's laddies dear.
> Let Rose and Lily o'er them fall
> And birds sing requiem clear "
> – (*Ruth Raymond.*)

Give flowers to those bereaved, for these sweet comforters bring balm and consolation to the heart bowed down by grief.

Give flowers to the gay, they will make their happiness more complete. Give flowers to the wedding guests, and above all give flowers to the blushing bride.

> " Bring flowers, bright flowers! for the bride to wear,
> They were born to bloom in her shining hair,
> She is leaving the home of her childhood's mirth,
> * * * *
> Her place is now by another's side,
> Bring flowers to deck the fair young bride."
> (*Mrs. Hemans.*)

Give flowers to those steeped in crime. Such pure messengers will brighten the gloomy cell and may bring thoughts of days that were innocent, of those dear ones upon whom has fallen unmerited disgrace, and lastly, a desire to turn from evil ways.

Give flowers to the indifferent Who knows but that a beautiful flower graciously and opportunely given may be the direct means of awaking a latent love of flowers and their culture that may prove a benefaction to mankind and a benediction to the once disinterested individual.

Give flowers and potted plants at Easter time and Yule-tide when they are peculiarly appropriate on account of their emblematic significance As December flowers are rare treasures, and convey the Christmas spirit better than any inanimate and less beautiful objects can, a floral gift is, indeed, a gracious one and at Christmas when the spirit of "peace good-will," and of giving is at its height, is an especially good time to preach and practice the gospel of flower giving which should extend throughout the entire year.

In short if you are able you may give flowers to all and on any occasion with the assurance that the gift will be in perfect taste, and when the time comes to pass to your reward. you may feel the "saving grace" that Betty Briarose did, who says:

> "When I come to stand at the pearly gates,
> I fear a stern voice may say:
> ' 'Tis a sinful and thoughtless mortal
> Who often forgot to pray.'
> Then I hope some saint who knew me here
> Will look down from glittering towers
> And say, 'She wasn't entirely bad,
> In that naughty planet of ours
> She gave away millions of flowers.' "

Work for Commercial Clubs.

First, the town must be made a good place to live in. And it must look like a good place to live in!

Materialists and the Commercial Club is usually ninety-eight per cent. strong on material results usually overlook the commercial value of the aesthetic. A man may live in a pig sty and get used to it; but even he notices the difference when he gets out. A town may be so used to dogfennel and ragweed on the streets and mosquito breeding ponds along the lower roads, and tin cans and rotting rags in back alleys—that it does not have nerves and the blues and chills every time it sees itself. But the stranger who sees it afar off, even from the car window, does not stop unless he is compelled to, and then gets away on the next train. Moreover, the looks of a town unquestionably affect the spirits of its people. And a raggedy town has a raggedy soul.

Instead of sweating to raise a fifty thousand dollar bonus to hire some alleged manufacturer to come to town, the Commercial Club had better raise five hundred dollars to clean up the town and make it fit to come to.

Trash cans and street sweepings should not be left to the Women's Wednesday Club. The Commercial Club should make sentiment—big, solid sentiment in favor of every modern device for keeping the town clean and sanitary; and it should even back the city council and push it, if necessary, into having free garbage wagons, employing an official grass-cutter, and keeping the public property in such shape as to be a perfect example.

It is easy to say that bread is more important than flowers And it is. The most important things in the world are bread and shelter. But ninety-six per cent of the people in the country towns and small cities are above the bread line. At least ninety per cent of them have some luxuries. The first and most important luxury is a pleasant environment Practically all the people see the town every day.

If the streets are clean. the lawns well clipped, flowers in the yard one does not require either wealth, taste or culture to enjoy that. Consciously, or unconsciously, every person on the streets gets some sort of pleasure from a town of that sort. It makes people want to stay. And when people want to live in a town—when it is so healthy, so attractive. so pleasant that they love to get to it and hate to leave they are going to invent their own occupations and build their own factories They will find ways of making a living.—WM. H. HAMBY. in "The Commercial Club in Our Town" in *Saturday Evening Post.*

Unusual Fall Weather.

Reports reach us from many sections of the unusually late blooming of many different kinds of flowers. Roses in bloom as late as the first week of November are not uncommon this year, and perfect bloom is also indicated. The editor's garden also has borne out the reports from other sources; Pansies, Hollyhocks, Delphiniums, Phloxes, and other things blooming through October into November. We shall not expect to see another fall like this for many years to come. The unusual October has been followed by an unusual November and an early winter may be the logical sequence of an extremely mild October.

The Glad Philosopher's Musings.

Every once in a while some sentimentalist prates about "plant intelligence," as though such an attribute existed. A plant is a non sentient being, devoid of volition, much less intelligence. The evidence of a seeming intelligence in the growth and action of plant life is the general intelligence of nature, whose laws move the plant to an accordant action. Given like conditions in vegetable life, nature will produce unvarying results. If a bean vine had volition, some day one would start twining toward the left instead of the right, just for the novelty of the thing or as an experiment.

Man alone is intellectual. He is the only known creation that has the ability to reason and the power of initiative. The lower animals, guided by an inherent instinct, do everything by rule, absolute and unalterable. The ant, it must be admitted, has a fair claim to rank next to man in the scale of intelligence, but Sir John Lubbock found by exhaustive experimenting that while ants showed very high intelligence in many established functions of communal life, he could get no satisfactory evidence of individual reasoning that might enable them to overcome obstacles that would require only the most rudimentary intelligence to remove.

John Burroughs, after a lifetime spent in close observation of the ways and habits of the lower animals, confesses that he has never been fully able to persuade himself that the lower animals ever show anything more than a faint gleam of what we call thought and reflection the power to evolve ideas from sense impressions, - except feebly in the case of the dog and the apes, and possibly the elephant. He finds that nearly all the animal behavior that the credulous public looks upon as the outcome of reason is simply the result of the adaptiveness and plasticity of instinct. He says the animals have impulses and impressions where we have ideas and concepts.

Had Burroughs not qualified his opinion with exceptions he might expect to be disputed by every owner of a dog, most of whom would in all sincerity want to vouch for known cases furnishing positive evidence of that animal's possession of considerable reasoning power. My own love for the dog and experience in training them would make it hard for me to deny him the compliment of such a belief. But it must be remembered that for thousands of years the dog has been man's close companion and this close companionship has modified his nature and "humanized" his instincts, and though he has a routine intelligence of an apparently high order, he seems to lack the ability to apply it to any new problem or unfamiliar condition.

We are led to think an animal intelligent when we see it perform tricks that have been taught it. In teaching an animal to perform a trick we repeat the impression made upon its senses over and over many times until a habit is finally established and the animal is trained, but it is not educated.

We cannot but marvel at the profound intelligence of nature when we take notice of the many ingenious ways and devices plants have for scattering their seed; but since the preservation of the species is ever the most important end to be achieved in either plant or animal life, it is natural that here we may expect wise old Mother Nature to give fullest expression of her subtle genius.

THE GLAD PHILOSOPHER.

Proposed Plan for Inspection and Regulating the Naming of New Varieties of Flowers.

BY WILLIAM H. PHIPPS.

[*Written expressly for The Flower Grower.*]

One of the questions that concern real flower growers is placing on the market new varieties that are not up to the improved standard. Propagators are often influenced by the desire to realize financially on some mediocre variety and it is named, catalogued and often advertised beyond its merits. If growers would only realize that in so doing they lower their own standard and consequently are so rated by the public, we think that they would use more care and if such flowers are sold at all to sell them in a mixed grade. By so doing they would avoid much of the trouble and disappointment now experienced by growers who are seeking the best in every line.

Since it is evident that vast numbers of new named varieties are being catalogued this year, many of which will soon be discarded, we necessarily are concerned as to some method that will protect both the propagator and the public. The writer is one of the buying public but hopes soon to have some new varieties to offer for consideration, hence he will be affected from both angles of the question. I therefore propose the following:

1. In each general flower society, viz: "The American Peony Society" and other societies of that sort formed to promote and cultivate the Peony, "The American Gladiolus Society," and subordinate branches, etc., appoint a committee in each society to pass upon and give a rating to all heretofore produced and named Gladioli, Peonies, Roses, et al.

2. Appoint district judges for each state and territory, who shall examine and pass upon the merits of new varieties when requested so to do by any grower announcing the production of a new variety; that such grower shall pay such district judge or judges as the case may be, the sum of five dollars for making such examination.

3. That if such district judge finds the new variety to possess merit he shall make a certificate showing the kind, quality and name of the new variety and recommend that it be placed on the accepted list. Such certificate shall be handed to such grower and a copy thereof shall be forwarded to the general secretary of the society, who shall thereupon enter such variety in the list of named varieties; that when such variety shall have been so entered it shall be entitled to enter competitive classes in any show or exposition conducted under the rules and regulations of such society; that no variety that has not passed such examination and has been so certified shall enter any contest for prizes, certificates of merit, nor in any manner enter in any competition conducted under the rules and regulations of such society.

4. That any grower who desires to appeal from the decisions of such district judge may do so by giving notice of his intention so to do in writing, by filing the same with such district judge who shall forward the same together with a copy of his findings, to the general secretary of the society, who shall enter the appeal and refer it to the judges of the society who are annually appointed to judge all flowers entered for exhibition at the annual show.

If such appellant so desires he may enter a general appeal to the whole membership of the society and he must then furnish not less than three blooms or spikes to be placed on exhibition at the annual show and in such case each member of such society present at the show, shall have the right to examine the flower. If approved he shall vote yes, if disapproved he shall vote no. A majority of votes cast in the affirmative shall be required to support the appeal. That in case of appeal he shall pay a further sum of $5 to the general secretary.

5. That in case a variety is rejected the district judge shall write rejected on the application and such variety shall not again be presented until after the expiration of two years from the date of such rejection, either in the first instance or on appeal as herein provided.

6. No district judge shall sit in his own case but he must submit his application to some other disinterested judge, or to the general secretary who shall present the matter to the exhibition judges as herein provided in appealed cases and they shall render a final decision. provided, however, that in every instance a grower may ask for the decision of the general membership of the society as herein provided in appealed cases.

7. No variety that has been twice rejected shall thereafter be eligible to consideration at the hands of the district or general judges. The general secretary shall publish a list of all new entries and of all appeals by bulletin which shall be available for the use of all members of the society.

8. The general secretary shall call attention of all members who attend the annual meeting to the list of appeals wherein such appeal is directed to the general membership and request that each member present pass upon the appeal. Should the appeal be sustained then the general secretary shall issue the certificate of approval to the appellant grower.

The above is submitted for consideration. It is not complete but it is a start in the right direction and if carried into effect must have a beneficial result.

We will know that a variety is good that carries a certificate.

We will avoid waste of time and money.

We will be saved from the extravagant claims of over-enthusiastic growers.

It will weed out all poor varieties and present only the best for consideration.

Mr. Phipps' suggestion is at least a start in the right direction. Some check should be put on the promiscuous and unlimited naming of new varieties of flowers.

The Flower Grower

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Special favors to none, and a square deal to all.

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> *"He who sows the ground with care and diligence acquires a greater stock of religious merit than he could gain by the repetition of ten thousand prayers."*—ZOROASTER.

The Intelligence of Nature.

The "Glad Philosopher" this month gives us much food for thought. His train of reasoning in discussing the intelligence, (or lack of intelligence) of plants, and the intelligence of animals, and the intelligence of man, can hardly be criticised. However, we "rise to remark" that the key to the subject may perhaps be found in the last paragraph of the "Glad Philosopher's Musings" when he speaks of "Wise Old Mother Nature." There is an intelligence of Nature which is not given to man to comprehend, and the "Glad Philosopher" in attempting to discuss the lack of intelligence of plants, and the half intelligence of animals, and the alleged super-intelligence of man, is getting into deep water where we would hardly venture. We are not at all convinced that the best specimens of the most highly developed animals are so far beneath the most inferior specimens of humanity as the "Glad Philosopher" assumes. There is a relationship between animals and man which is not entirely understood and we are convinced that some people look down with contempt on animals from a sense of superiority which in many cases is not properly based on fact. Consideration for the so-called dumb animals on the part of a human being doubtless marks such an individual as more highly endowed with intelligence, shall we call it, than those individuals who regard themselves as so markedly superior.

It is, of course, difficult to understand how plants have intelligence, as they certainly have not (as we understand the term) the "ability to reason" nor the "power of the initiative," referred to by the "Glad Philosopher." Words, however, express but poorly some of the things of nature and what we call intelligence is difficult of definition when applied to the works of nature. May we not assume that the workings of nature are guided by a superior intelligence, not only in the most highly developed specimens of man, but also in the most inferior specimens of plants; and the same intelligence is at work, whether in a lower form or in a more advanced form? Words and terms, and definitions, altogether fail in discussing a matter of this kind. Man is not yet highly enough developed to fully understand these things. It is vouchsafed to man that these things are doled out to him in small parcels, and that there is a superior intelligence is proved by such doling out.

MADISON COOPER.

Should We Burn Waste Vegetation?

We note that writers in giving directions for preventing or eradicating disease from various plant growths recommend that any portion cut away should be burned. They do not tell us how to do the burning, and we don't believe that they would like the job themselves. It is not easy to burn green plant growth and if the directions to burn at once are followed, it would not do to allow it to dry before burning.

Candidly, we think that the advice to burn all diseased foliage or other materials which are suspected of disease is unnecessary and we also believe that the compost heap is the right place for all these materials. Some writers in recommending the cleaning up of the garden in the fall of the year, suggest burning all waste materials. We say compost them. Our own practice is to compost with layers of stable manure. First, potato tops, Gladiolus tops, weeds or any other trash from the garden to a thickness of about six inches; then two or three inches of stable manure, then a $\frac{1}{8}''$ sprinkling of ground limestone, and then repeat this process to any thickness desired. Materials treated in this way and allowed to rot down for a year make a most valuable material for fertilizing purposes. Don't forget to keep the compost heap flat on top or a trifle hollow to retain rainfall and prevent burning or fire fanging.

Perhaps some of our friends who recommend the burning idea will explain more fully if we are wrong in recommending that materials may be composted to advantage. Will they also explain to us if it is possible that disease may linger in a compost pile after being allowed to ferment and rot for a year? We doubt it, but are open to conviction.

MADISON COOPER.

What We Have Done for Gladiolus Growing.

In reporting the big Gladiolus show in Boston in August, *Horticulture*, published in Boston, in commenting on our display of Gladioli, mentions the fact that we have done as much as anybody in the country to promote the interest of Gladiolus growing.

As Elbert Hubbard says, "we are willing to admit it," and we would not have said no, had *Horticulture* given us credit for having done MORE than any other man to popularize the Gladiolus. In fact, we believe that with the advent of THE MODERN GLADIOLUS GROWER in January, 1914, the Gladiolus as a flower began its present career of popularity. Without in any way detracting from the interest in other flowers, we have consistently urged attention to the Gladiolus which until recent years has been comparatively little known. In fact, the Gladiolus is so new and modern, comparatively, that the literature available on this subject is mostly contained within the files of THE MODERN GLADIOLUS GROWER and THE FLOWER GROWER.

The idea that Gladioli revert or change color will not down. Every once in a while some one is writing us along this line. Well, we are willing to be convinced of most anything but in our fifteen years of experience or more, and in growing many thousands of bulbs and several hundred different varieties planted near each other, we never once even supposed that Gladioli did not come true to name from the bulb or bulblets. If anyone can convince us to the contrary they will need to produce more evidence than we have seen so far. Mere claims or ideas not substantiated by records are of little value as evidence.

ODDS AND ENDS.

Individuality in the Small Lot.

Individuality in the landscape treatment of the small lot is not usual and yet when it is present it proves richly suggestive for the handling of similar bits of ground.

You have seen, perhaps, one of those delightful little Dutch Colonial houses with a trellised stoop, set about twenty-five feet back from the pleasantly shaded street. A straight path cuts the greensward which runs unbroken from the sidewalk up to the low-set house. On either side, arcs of forsythia sweep down upon the grass, erect growing Lilacs rise above them: the white house, the enframing green, the flickering shadows form a simple but satisfying picture. To the north the service path is overshadowed by shade enduring shrubs and edged with ferns and rocks and wildlings. It seems more a woodland trail than one of pure utility. To the south of the house is a wee garden, box edged on the further side, its narrow paths of flagging overrun with mats of Phlox and Clove Pinks with upstanding Asters and Iris behind. This is but a 15 x 25 foot garden below the living room windows—we pass down a few stone steps into another picture, just a woodland glade with Azaleas and great patches of Maiden's Hair Ferns beneath the trees which in spring are lit by the white flowering Dogwood. And the wonder of it all is how much has been done with so small an area, on every side of the house a picture has been formed, not at great expense but by the careful use of shrubs and flowers.

There is another bit of garden that I remember, far less attractive to be sure and yet, in plan, of interest. Here advantage has been taken of land below the level of the street and there is a long strip of sunken garden, grass-pathed, with neat beds and the smoothed forms of dwarf thuyas. It is a rather long and narrow strip and the hedge is not old enough to give that sense of seclusion so necessary to a real garden, but every time I motor by I slow down and peer in. The word seclusion recalls a quite different handling, for the house itself is, in this case, practically on the village street and its shingled wall has been continued to make more private the ground within. I do not believe the lot is over fifty feet wide but through the white gate one glimpses grass and flowers and a vineclad trellis that suggests a hidden picture beyond. You may imagine an out-of-door room, a seat of oak, a bower of fragrant Honeysuckle or what you will.

The old country dooryard with its stone posts and white palings has an air of dignity. The trees that stand sentry are large, Lilies of the Valley and Johnny-run-over-the-ground take the place of grass, day Lilies grow in formal lines against the house and in their season tawny "Tigers" and yellow Lilies give a touch of color as they crowd further and further under the fence as the years go by. Such a dooryard demands a house of some simplicity but the principle might fit as well a bungalow, though there I should prefer the enclosure to be a true garden with a broad brick path to the door and borders of perennials, a few shrubs of rather symmetrical growth and vines ramping to the eaves. Originally I suppose the fence was made for practical country reasons, to keep away from the front door the wandering animals of the farm, but so pleasing is the effect that it is worth transplanting to our suburbs.

Where the service wing helps to form a warm corner, I know of a flagged garden that seems to gather every particle of sunlight on a mild winter's day. The house is of concrete, rather warm in color, and there is a light frame-work of cedar for vines that carries one back to the vineyards that look down across the bay to Capri. The area is square, bounded on two sides by the house, on two sides by a low wall with evergreens beyond; there is a pool with bubbling water and placid goldfish, creeping plants have been allowed to sow themselves in the crevices of the flagging while here and there, for color, are set flowering plants in dull terra cotta pots. It is a haven of peace and quietude.

The word garden has a very broad meaning, we may find it used to cover and palliate many an atrocity, but I like to think of it in its old time meaning of garth, an enclosure, a place shut out from prying eyes. The idea that our front lawns should be open to the street has undoubtedly added greatly to the park effect of our lesser roadways but it has not acted wholly to the advantage of the real owner who gives thus to each passer-by an opportunity to share his property. Who can enjoy the slow personal development of his land in such a glare of publicity? The pleasure of delving in the dirt in garden togs is spoiled when your friends and neighbors overlook and criticise the process at their leisure. And in this connection I wish to quote a few maxims from a letter of Frederick Law Olmsted, probably the greatest landscape architect of our country. It was written in 1889 to the editor of the *American Garden* and published in August of that year but I think the words will strike you as still eminently worth consideration:

"What is to be seen in looking *from* the dwelling of a family is of more importance than what is to be seen in looking *toward* it.

"It is more important that a home should be loved by those living in it than it should be admired by the public.

"To look point blank into a street is not helpful to the home quality of a house or garden."

R. S. Sturtevant.

Put a thermometer in your storage cellar. Know that it is accurate, and watch that thermometer during cold weather. Supply heat before the danger point is reached.

THE DAHLIA

Dahlia Ideals.

We feel like registering a well-meaning protest in respect to the course which Dahlia development seems to follow of late, judging from what has been shown in the exhibitions in the last year or two. The tendency to overexploit the so-called Peony-flowered and decorative classes is very evident. Raggedness and lack of symmetry in a flower are seemingly regarded as chief "qualities" for these modern classes and, consequently, a lot of stuff is put forward that, as it seems to us, should have gone to the rubbish heap. We do not wish to be understood as casting disfavor on the Peony and decorative types of Dahlia or comparing these types to their disadvantage with the old formal super symmetrical standards. On the contrary, we have a very decided partiality to the boldness and artistic "abandon" of the now popular classes over the old-time favorites, of which Glenny, eighty years ago, said, "The bloom should be perfectly circular and between half and two-thirds of a ball, the petals should be regularly laid and alternate, like the scales of a fish; the petals should be so true as to form circles to the centre and the circle formed by the ends of the petals should become narrower as they approach the centre," etc., etc. But Glenny laid down other rules, some of which the Dahlia raisers of the present day might profitably heed. Coarseness, distortion, dull washy colors, flimsiness of petal, weakness or tendency to crookedness in the stem—all these defects are far too common in some of the collections one sees nowadays. Mere bigness seems to have usurped refinement in the estimate of essential qualities in a Dahlia.—*Horticulture.*

Dahlia tubers are best stored stalk downward in barrels or boxes. Some pack in dry sand, some use leaves or other coarse material. In a dry cellar some protection from the air is needed to prevent excessive drying out.

The Evening Hour.

[*Written expressly for The Flower Grower.*]

The air was sweet with the perfume
From myriads of bloss'ming flowers,
The lingering rays of the setting sun
Filled the world with golden showers.
The purple Clematis blossoms
Fluttered softly in the breeze,
The last faint notes of the oriole
Sounded from the trees.

A rustle of wings from the arbor,
As the sun sank from sight in the west,
A sweet, low trill from the snowball bush,
And the birds settled down to rest.
I wandered away in the twilight,
To the pasture on the hill,
Glad that the busy day was done
And the noisy world was still.

The cattle and sheep were resting,
Nor stirred as I passed them by.
The slender pines, on the distant crest,
Stood like sentinels 'gainst the sky.
Like a silver disk, the moon arose,
Pressing back the curtains of night,
And flooding the quiet, peaceful scene,
With its beams of silvery light.

Anon there swept through the silence,
Like sorrow's fabled surcease,
The hedge sparrow's evening hymn,
With its tender notes of peace.
Then my lonely heart caught the spirit
Of worship and sweet grateful praise,
And I thanked the Father in heaven
For the birds and their restful lays.

Mrs. Grace E. Bruce

WAYSIDE RAMBLINGS

[*Written expressly for The Flower Grower.*]

ORIGIN OF GLADIOLI.

In the matter of origin of certain Gladioli, I give below all the information I can locate at this time:

Alice Carey—Credited to E. Y. Teas by J. K. Alexander and Willis E. Fryer, probably same as *Snowcrest* of Livingston Seed Co., and much like *Snowbank* of Cowee.

Black Hawk—Named by G. D. Black who obtained it intermixed with Kunderd's *Cardinal King.*

Fire King—Introduced by John Lewis Childs of Flowerfield, L. I.

Hohenzollern—Understand this to be a foreign name given to the variety called *Baltimore* which was originated by Cowee and introduced in 1910. *Salmon Queen* is another synonym of *Baltimore.*

Mrs. Jas. Lancashire—Named by B. Hammond Tracy, but is said to be a synonym of *Fairy* originated by E. E. Stewart of Brooklyn, Mich. Originally exhibited in 1909 under the name of *Fairy Queen* and later changed to *Fairy* in 1913.

Dominion—Originated by H. H. Groff, Simcoe, Ont. Said to be synonymous with *Red Emperor* named in Holland, but of which stock was probably obtained in America.

Red Emperor—According to Gladiolus Studies III, Cornell Extension Bulletin 11, a variety named by Vos of Holland *Meteor,* owing to the fact that there were already two Meteors on the market was renamd by the Harlem Floral Committee *Red Emperor.* It is possible that Vos raised this from seed and named it before he saw our *Dominion* with which it is undoubtedly identical. This variety appeared sometime about 1906.

Summer—Originated by Hoeg of Decorah, Iowa.

White Cluster—Originated and named by Mrs. A. H. Austin of Wayland, Ohio.

White Excelsior—Called so by Velthuys of Holland. Is a synonym of *Reine de l'Anjou* (not Lemoine's). Originated by Barre, and also has the following synonyms: *Reine Blanche, Le Radium, Jeanne d'Arc* and *Schneewitchen.*

CHAS. E. F. GERSDORFF.

SHALL WE CUT TOPS OFF PEONIES AND IRISES IN THE FALL?

The "Glad Philosopher" wrote me the last of October that then was the time to cut tops off Peony plants, and also the Iris. I replied and told him that I was "from Missouri," that up in this country the tops left on would serve as a winter protection to hold the snow. He writes back and says that if the tops are left on they sprawl, and lie flat on the ground, and in the spring it is much harder to remove them and more dangerous; for if Peonies are pulled off they are likely to break down in the ground and come up with one or two blooming stalk buds attached to them. He also says that it is pretty general custom to cut off the tops, and if they are needed for a mulch they can be cut and spread over the roots for that purpose and removed in the spring much easier than if left uncut. I know from experience that Peony tops especially are a tough proposition to remove in the spring; difficult to pull off and difficult to cut off with pruning shears, but it really seems to me that the tops left on over winter make a fine protection to catch the snow which prevents alternate freezing and thawing and this keeps the frost from damaging the roots.

Would be glad to hear from those who have had experience with this subject. Some of these common things that are often overlooked are of much importance.

MADISON COOPER.

ASTERS AND SUNFLOWERS.

There are now so many of the Michaelmas Daisies, including the Novas-Angliae and Novi-Belgii types that one can enjoy their beauty from June through November.

The latest Aster to bloom at Hillcrest is the beautiful, tall *Tartarian.* It comes into blossom just as the other Asters are curling up their rags. The violet blossoms are in clusters at the top of a stalk five feet or more in height. With us it blooms in the shade of our wood road, also in the sunshine of our wild garden where it grows between two boulders. It has proved hardy with us as it was in the ground through the severe winter of 1917 and 1918.

Another flower which we have enjoyed this autumn is a Helianthus which was sent us from Arkansas by the Bureau of New Plant Introductions in Washington with the following description: "Helianthus *Augustifolius,* from Dr. David Griffith, Arkansas. A selected variety of the native wild flora Perennial plant of pleasing habit, with flowers somewhat resembling Cosmos, and narrow drooping glossy foliage. The main stem and branches are long and graceful, each bearing six or more flowers on long arching flower stalks. Will stand cutting. May be used much as the Cosmos is for cut flowers and for tall mass effects."

With us this Sunflower blossomed late in October, too late for the blossoms to ripen into seed, but we found it easy to propagate by root cuttings. It was hardy in the rich soil of the flower garden where it got a good start for the coming year. Those which we tried in wild planting did not do so well. We brought one of these into the greenhouse and a dozen or more plants were made from it which we set out in our garden this spring.

Its late blossoming has made it very beautiful in our garden this autumn when the trees are dropping their leaves and the flowers are bidding us good-by. A frost on the sixth of November made the blossoms droop, but the next night came a hard rain so that it is blooming bright and beautiful to-day, November 8th.

M. R. CASE.

TULIPS FAILING TO BLOOM.

In regard to the discussion about tulips "coming blind," your correspondent may have meant what happened to mine last spring. Many of them threw up one broad leaf, these being bulbs that had bloomed the year before all right. The Rev. Joseph Jacob, an English authority, in his book on Tulips, speaks of them as "throwing up one broad leaf, indicating no bloom;" but he neglected to say whether or not the Tulip would come back the following year. I referred this to one of the largest bulb importing houses in the country and their report was that my Tulips were all in. Another large importer said that possibly my soil was not rich enough and wrote that Tulips were gross feeders. I can hardly believe that they were not fertilized enough, as my rows are about forty feet long and in each row I incorporated one and one-half pounds of bone meal and three and one-half pounds of sheep manure. I have separated some of these non-blooming bulbs this fall and have fertilized them heavily and will watch results next spring with interest. The combination of bone meal and sheep manure worked nicely so far as I could see, and I used the same combination in my rows of Gladioli, and the bloom this year was fine. Owing to the late fall I picked some Gladioli on October 20th, and the tops were still green.

W. J. DREW

MINNESOTA FALL WEATHER.

September was warm and dry, but October was the warmest in my recollection. We had a hard frost the first of the month and a light one soon after, but from then until the 22nd the wind was in the south nearly every day with August temperature night and day. One effect of this warm weather was to cause Oriental Poppies to bloom, and one thing that I never heard of before was to have Iris seed germinate in October. Last fall I planted a quantity of dwarf Iris seed, and all that grew were transplanted in July, but in October I had a much better stand from these same seed than I did in the spring. I often have a better stand the second season than the first, but never saw them in such a hurry before that they would germinate in October.

I expected a snow storm on November 2nd, politically, and we did have a little real snow, but I did not think we would have such a whirlwind, and so general.

WILLIS E. FRYER.

CATALOGUING IRISES.

Referring to Mr. Clute's article on the Iris catalogue in the October number of THE FLOWER GROWER, I certainly think his point very well taken. We have for years issued a catalogue in harmony with his ideas. This arranges them by color in their order of blooming. Our next year's list will have the exact date they began blooming this year in our nursery. The height of the bloom and exceptional features like unusual fragrance in *Caprice* and *Fairy* Iris are noted. We even have them tabulated by price so a purchaser can pick them out according to his pocketbook. We have had customers who have never seen many of the kinds we list that have bought Irises of us and have been able to arrange their Iris beds harmoniously according to shade and have the taller ones in the rear.

WM. A. PETERSON.

IRIS WYOMISSING.

I cannot agree with those who would discard the Iris *Wyomissing.* It must be admitted that among the pinks it is a quite excellent distinct variety. It is distinct, however, in having throat markings. I think that the color is at least good. There is more real pink in the flower than in some other so-called pinks. The time is coming when *Wyomissing* can be discarded; but in my opinion I think that it is too early in the game to discard it now.

H. W. GROSCHNER.

ORIGIN OF GLADIOLUS VARIETIES.

Replying to an inquiry in the current number of THE FLOWER GROWER relative to originators of certain varieties of Gladioli, I beg to supply the following:

Czar Peter, by Velthuys of Holland.
Glory of Holland, by Alkemade of Holland.
Hohenstaufen, by Pfitzer of Germany.
Master Wietse, by Velthuys of Holland.
Conspicuus, from Holland.
Catherina, by Velthuys of Holland.
Intensity, (syn. *Scarlet Beauty*) by Groff of Canada. Introduced by Cowee of Berlin, N.Y.
L' Immaculee, from Holland.
Liebesfeuer, by Pfitzer of Germany.
Pride of Hillegom, by Velthuys of Holland.

CHAS. E. F. GERSDORFF.

FRAGRANT IRISES.

If your "Glad Philosopher" never smelled an Iris more fragrant than *Florentina* and *Kochii,* he has something to live for even yet. Next summer let him sniff a bloom of *Gazelle* and one of *Fairy.*

B. C. AUTEN.

MRS. AUSTIN'S TALKS

[Written expressly for The Flower Grower.]

Incidents of a Trip to Santa Rosa.

"I WONDER if it's the weather." And slipping on my coat I started for a walk in the misty dampness of our first dull day in October, living again the day of nearly a year ago which was so persistently called to my mind by the similarity of weather.

The place where we were stopping at that time was located on a steep hillside over which hovered a woodland of large size and many years' growth, and which was especially noticeable because of the uniformity in size and height of the trees, and, quite unlike our forests of the east, those trees were standing in perfectly straight rows reminding me, for all the world, of a planting of gigantic Gladioli. Of course you have already guessed it to be a Eucalyptus grove.

Glued, like the nest of a swallow, to this almost perpendicular hillside, was the home of our friends, from whose kitchen outside door one ascended a stairway of several steps to reach the back yard, and when I walked across, or rather, up the yard, I found myself on the ground level of the forest and level with the roof of the house. From the living room, on the opposite side of the house, a door opened onto the front porch which was also the roof of the garage which faced and was entered from the street below. From this roof-porch the eye commanded a view of the city of San Francisco and the Bay, and in evening the twinkling lights of Berkeley, Oakland and Alameda added their star-like splendor to the scene.

For a long time we had been treated to ideal California sunshine, but the particular morning to which I have reference, the fog rolled in gray and chilling, yet impelling. One had the feeling that he must pierce the gloom of mist and that in doing so he would find something interesting or beautiful beyond. We decided to go somewhere, and, quickly packing a grip, we started on one of our numerous side trips out from the great city. Crossing the Bay we were soon settled in the coach of a railroad train northward bound. It was beginning to rain but the fog had cleared and new and unusual sights were flashing into view.

Bill-boards picturing baskets filled with eggs attracted our attention and apprised us of our approach to the city of Leghorn chickens, the justly famous Petaluma. Chickens, chickens everywhere, and a large flock of the snowy fowls with their coral heads is indeed a beautiful sight.

Another sight interested us there, and that was the ships in the little canal that had been dredged out from an arm of the Bay and gave the ships the appearance of being at port in a meadow.

We reached Santa Rosa—sixty-nine miles from San Francisco—in a pouring rain, but there were plenty of taxies at the station and in a short time we were in a very comfortable hotel. When the rain slackened a little we went out to see the town and learn where to find the home of Luther Burbank with the intention of calling on him before leaving the town as that was the main object of our journey there.

A church built of lumber from one tree was pointed out to us. A good sized all wood structure with tall steeple. In the Chamber of Commerce building there was a display of productions of Santa Rosa and surrounding country, and among them various Burbank creations. Especially interesting were the specimens of large fruits and vegetables developed from those of only ordinary size. In our many rides we had seen thousands of Artichokes of the common variety, but the Burbank development was several times larger and well named Giant Hybrid Artichokes. We could have spent many hours in this place with every minute full of interest, but our time was limited, and leaving there we went to a flower store whose display window attracted us and discovered the proprietor to be a florist from our home town and from whom we had purchased our Ravenna home. He made the afternoon very pleasant for us by treating us to a fine ride in the country through a fruit growing district.

View on grounds of Luther Burbank showing Artichokes in foreground.

The following day we called on Mr. Burbank and found him busily engaged with work among seedlings in a small greenhouse on his place. There were potted strawberry plants full of bloom in which he seemed much interested and spoke of it as the Every Minute Strawberry. He also showed us seedling Bamboo and I believe he said that those were the first ones ever raised from seed. On the grounds he showed us the Artichoke plants from which the Giant Hybrids were grown. We saw the Elephant Garlic growing, a very great improvement over the common variety from which it was developed, it being several times larger As we were about to leave he directed our attention to a large Lebanan Cedar tree, whose branches drooped to the ground, and when standing underneath it seemed much like a large tent made of evergreen boughs. As we were about to leave he mentioned his catalogue in which are descriptions of his "New Creations and special new selections in seeds." Send for it. It will interest you.

It was a great pleasure to meet Mr. Burbank personally and we were greatly impressed with his evident kindness and simplicity, with no trace whatever of the egotism that is sometimes attributed him, and we left with feeling that we had met a man as good as he is great.

MRS. A. H. AUSTIN.

The St. Thomas Horticultural Society.

The local council of Women who recently conducted the tag day benefit for the St. Thomas Horticultral Society has sent a check to the Society for $75 "For the magnificent way in which the Society is beautifying the city." The ladies further state that, "we are ever ready to help anything that will so evidently build up and sustain our lovely city."

At the meeting of the Ontario Horticultural Society executive, held in the Parliament buildings on Nov. 10th, the writer asked the co-operation of the district representatives in the 1921 meeting of the American Gladiolus Society in St. Thomas. In most enthusiastic speeches several members expressed their delight at Ontario securing this splendid convention and the unanimous support of every one present was pledged. The delegates also asked that they be advised from time to time of the progress of arrangements and plans so that they might constantly keep in touch the 25,000 members throughout the Province. The secretary, Mr. J. Lockie Wilson, was also instructed to invite Mrs. A. H. Austin, of Ravenna, Ohio, to address the Society at their annual convention to be held early in February in Toronto, the paper to be on "Gladioli and their Culture," the object being to stimulate interest in this beautiful flower and also create further interest in the coming A. G. S. show.

The St. Thomas Horticultural Society has distributed amongst its members and planted in the boulevard beds some 80,000 Tulips, Hyacinths, Daffodils and other bulbs. The demand this year has been very heavy especially for the newer and better varieties.

F. E. BENNETT, Prest.

The big show of the American Gladiolus Society is a sure thing in St. Thomas in 1921. The exact date of the show has not been set, but it will doubtless be the middle of August.

Plant Names and Their Meanings.

By WILLARD N. CLUTE in *American Botanist.*

THE NAMES of plants have ever formed an important part in Botany. The collecting of plants and the running down of their names by the use of a "Key" was long considered the end and aim of plant studies and even now this amusement has not entirely ceased to interest the botanizer. The question as to the exact name each plant should bear, originated shortly after the Christian Era and still forms the subject for numerous acrimonious debates among the devotees of "the Amiable Science."

Meanwhile the meanings that lie in plant names have received scant attention. To be sure, nearly all botanical Manuals attempt to give the derivations of the generic names but apparently with only indifferent success, if we may judge from the diversity of derivations suggested. Since the generic names are usually taken from the Latin and Greek, a correct derivation ought ordinarily to be easy, but frequently it is far from being so. In the case of the common or vernacular names, the difficulties increase. There is no recognized authority upon which we may depend. Common names have been derived from all countries and from all languages. They have been given by philosopher and peasant, physician and farmer, civilian and savage, soldier and statesman. Learning has given us names derived from classic sources; ignorance has mispronounced and misapplied these names and coined others. As a result, the vernacular names present many puzzling problems which stand as a challenge to our ability, but the possibility of their solution adds zest to the study. Moreover, a wealth of tradition, poetry, folklore, fancy, custom, religion and other phases of life lie embedded in these names like jewels in the mine, and any extensive investigation is sure to be rewarded. Some of these names are older than the science of Botany itself; others are even now in the making.

It is manifestly impossible for any single individual to satisfactorily cover the whole field of plant names, but if any progress is to ensue, a beginning must be made, and it is purposed to set down here some observations on the subject which we trust will call out from others the additions, corrections, and further suggestions that the subject merits.

A good place to begin our studies is at that group of common, showy, and often poisonous species that long stood first in the botanical Manuals and is known as the *Ranunculaceae.* This word is only part of the title of the group. It should really be *Plantae Ranunculaceae;* that is, *Ranunculus*-like plants. As usually written, however, the names of plant families leave off the first word. Inquiring into the meaning of *Ranunculus,* we find that the word is derived from an animal rather than from a plant. *Rana* is the Latin word for a little frog and, because many plants of this group grow in marshy places where frogs abound, the old naturalist Pliny gave the name *Ranunculus* to one of the typical genera. From this name came the designation for the family and also for the order *Ranales* which includes, besides the *Ranunculaceae,* the *Magnoliaceae,* the *Anonaceae,* the *Berberidaceae,* the *Lauraceae,* and several others.

In any discussion of plant names it is unnecessary to devote much attention to the specific names. These are usually descriptive of plant parts and such other characters as size, habitat, color, abundance, and the like. Various proper names used are also self-explanatory. Some specific names, however, deserve mention, as for instance in *Clematis viorna* where the specific name comes from two Latin words meaning ornament of the wayside. *Ranunculus sceleratus* is of interest from an occasional mistranslation which makes it celery-leaved. The real meaning of *sceleartus* is acrid or biting. *Zanthoxylum apiifolium* may be properly translated celery-leaved for that is what the name really means.

Turning to the generic names, we find many of them dating back to periods earlier than the Christian Era. Some have been given in honor of heathen deities, others are the names of ancient plants entirely unrelated to the plants which now bear them, the titles having been misplaced through the vicissitudes of time or the carelessness of early writers, and still others are of such obscure derivation that the translations are at best mere guesses.

Paeonia, the genus of plants we now call Peonies, was named for a mythological personage, the physician Paeon, who is reported to have used the plant in medicine and to have cured the god Pluto with it. Old fashioned folk call the plant, Piny, perhaps with better authority than we have for calling it Peony, for properly pronounced the generic name is *Pi-o-ne-a,* easily shortened to Piny. The Larkspur genus *Delphinium* is named for a fancied resemblance of the flowers to the classic figure of the dolphin (*Delpin*).

Anemone is usually supposed to be derived from the Greek *anemos,* meaning the wind, but the latest editions of Gray's Manual say it is a corruption of *na-man* the Semitic name for Adonis "from whose blood the crimson-flowered Anemone of the ancients is said to have sprung." Our first derivation seems to be more in favor for it has given the vernacular name of windflower to several species. Wood's "Class-book of Botany" says that these plants were called Anemones because many species love windy places. Whatever the derivation, it may be mentioned in passing that the accent should be placed on the third syllable making the word sound exactly like Annie Mony. Thus far this has been overlooked by those sticklers for the new way of pronouncing *Arbutus* and *Gladiolus. Anemonella,* the generic name for the true Anemone, is a diminutive of *Anemone.*

The authorities also fail to agree as to the derivation of *Clematis.* Wood says it is from the Greek *klema* a vine or tendril; Gray says it is a name given by Dioscorides to a climbing plant with long and lithe branches. As to *Adonis,* Wood says "Feigned to have sprung from the blood of Adonis when wounded by the boar" but Gray opines that "Adonis was a favorite of Venus and after death was changed to this flower."

The globe flower genus, *Trollius,* is another bone of contention. According to Wood it is derived from *Trollen* meaning golden. Britton's Manual derives it from *Trol,* round. Webster's Dictionary says it is from *Torolyn,* the Hungarian name for the plant, and Gray explains it as from *Trollblume,* the German common name. *Troll,* it will be remembered, is the German name for a mischievous dwarf or fairy. Perhaps the flower is named for the troll! Anybody is at liberty to adopt whichever derivation seems to him most correct or to make one of his own. In any event, one can hardly look for accuracy in lesser writers when the authorities differ so markedly.

Dioscorides is responsible for the generic name *Thalictrum* applied to the Meadow Rue, which Wood says means "to be green." *Helleborus,* usually regarded as of unknown derivation, is said by the same author to come from two Greek words which mean "the food that causes death." The genus is well known to be poisonous. *Aquilegia* is derived from *Aquila,* the eagle, in allusion to the spurs which suggest the talons of a bird of prey. *Aconitum* is reported to be derived from the Greek *Akoniton,* meaning without dust, because the plants grow in rocky places, while *Hydrastis* is assumed to come from the Greek word for water, though the translation does not go unchallenged.

The other genera of the *Ranunculaceae* are somewhat more easily interpreted. *Actaea* is the ancient name for the Elder whose leaves the plants of this genus are said to resemble. *Cumicifuga* is from the Latin *cimex,* a bug, and *fugare* to drive away, accounting for the common name of Bugbane. *Zanthorhiza* is the descriptive Greek for yellow root, and *Nigella* is the diminutive of *niger,* meaning black. *Coptis* means to cut, in allusion to the divided leaves. *Caltha,* according to Wood, is from the Greek for goblet, the flowers being like golden cups. Gray says it was the ancient Latin name for the common Marigold which, however, does not necessarily invalidate the original derivation. *Myosurus* is, in Latin as it is in English, Mousetail, being so called because the carpels are attached to a long slender axis. *Troutvetteria* is named for E. R. von Trautvette. Gray says "an able Russian botanist" but Wood says "German" and the name looks it. *Hepatica* refers to the liver in the original Greek because of its leaves which are supposed to be shaped like the liver, and *Eranthis,* or the winter Aconite, means spring flower. *Isopyrum* is the ancient name for some species of Fumitory.

The number of vernacular names bestowed upon a given species depends in part upon its abundance, in part upon its conspicuousness, and in part upon its usefulness. Some may have as many as twenty common names and others lack a single one. It is interesting to note that the best known common names are nearly always generic; that is, they are applied to a number of species, instead of one, with, or without, qualifying adjectives. This is the case with *Ranunculus* where Buttercup and Crowfoot are common designations even when the flowers show no hint of butter color and the roundish and often undivided leaves could scarcely be likened to a crow's foot. Such adjectives as ditch, water, mountain, tall, dwarf, early, and the like are self-explanatory as in the case of the specific names; in fact, they are very frequently literal translations of such names.

The names of obscure derivation are the ones of most interest. Take. for instance, the word "knops" in such terms as Golden Knops applied to several species of *Ranunculus.* This is archaic English for a flower-head and in all probability goes back to the Teutonic knopf or its equivalent, meaning a head, bud, or button. Spearwort, a generic term for several small species of *Ranunculus,* is derived from an Anglo-Saxon word meaning a spire or shoot just as we still say a "spear" of grass. In all probability the spears used in combat were similar though larger spears.

The three common species of *Ranunculus, R. acris, R. bulbosus,* and *R. repens,* naturally have the greatest number of common names. They might also be said to be joint owners of a number of names referring to their color, as Yellow Gowan, Horse Gold, Gold Balls, Gold Cups, Gold Weed, Butter Rose, Butter Cress, Butter Daisy, Butter Flower in addition to Buttercup. Several of these terms may be applied with equal propriety to other species of the genus. The word gowan is now used in Scotland to indicate the Daisy, but it once meant any kind of a flower or bud. When Burns wrote of "gowans fine," he doubtless meant wildflowers in general. Butter Daisy is a different rendering of Yellow Gowan. The word Rose is another term that once had a less restricted meaning than we allow it at present, as witness Rock Rose, Christmas Rose, Rose Moss and Rose of Jericho. Butter Rose is simply a butter colored flower. In horse gold, the word horse implies

(*Concluded on page 202.*)

The American Iris Society.

A Letter From Prest. Wister.

WITH THIS ISSUE of THE FLOWER GROWER the first year's work of the American Iris Society is completed and it seems a good time to pause and reflect upon the conditions which led to the formation of this Society, to recount the tasks to which we pledged ourselves last January and to see in what measure we have succeeded or failed in our undertakings.

The little group which sent out the call for the first meeting expected a dozen or twenty people to attend and hoped for a membership of 50 or 100 the first year. When over sixty people attended the organization meeting we saw that we had underestimated the Iris enthusiasm in America, and the present membership of over 475 shows how very greatly we underestimated this enthusiasm not only in America but elsewhere, for we have members also in Canada, England, France, Holland and New Zealand.

This large membership has made it possible for us to accomplish more in our first year than is usually expected of a new society. Our members, I believe, have appreciated Mr. Sturtevant's fine notes each month in THE FLOWER GROWER, the *Culture Bulletin* and the various Iris shows held in different parts of the country. Some of them have made use of our Official Data Card and Card of Definitions. This is all that the average member has received from the Society, and nearly all the members that I have met recently appear to be satisfied. We have been remarkably successful in getting members, but if we do not satisfy you, and you do not care to continue your membership next year we shall have failed.

Most of you, however, do not realize the work that has been carried on by the committees and officers behind the scenes. They have laid the foundation for work which, in the future, will be of great benefit to both the Society and the individual members. Realizing that nothing of permanent value can be done until nomenclature can be straightened out, work towards this end was begun even before the Society was formed, and the first step in this is the compiling of a check list giving *all* species and varieties ever introduced into commerce, with name of originator, dates of introduction, with catalogue or other published description and reference. To this end the largest catalogue collection in America, that of the Massachusetts Horticultural Society, which dates back to 1790, has been searched as well as the fine catalogue collections at the Department of Agriculture in Washington and at Cornell University. We have also searched the files of all important gardening publications in America, England, France and Germany, and following this came a very detailed correspondence with experts all over the world for corroboration and amplification of the data secured. In all possible cases the originators have checked spellings and dates of their varieties, and among those who have helped us the most are Mr. Farr, Mr. Fryer, Miss Sturtevant, Mrs. McKinney, Mrs. Cleveland, Mrs. Dean, Mr. Jackson, Mr. Hendrickson, Mr. Koehler, Mr. Peterson and Mr. Bonnewitz in this country. In England we have had much help from Mr. Barr, Mr. Wallace, Mr. Bliss, Mr. Dykes, Sir Arthur Hort, Mr. Perry, Mr. Reuthe and Mr. Bunyard. In France from M. Denis, M. Mottet, M. Millet, M. Dessert and M. Chenault, and in Holland from M. Krelage and C. G. van Tubergen, Jr. It is very gratifying to note how willingly all these experts have helped us, for this check list is absolutely necessary for a foundation for further investigation, although it is not and never will be an interesting document except to students and those particularly interested in nomenclature. We hope this will be published during the coming year through the help of Cornell University.

The chief test garden at the Botanical Gardens, Bronx Park, New York City, is already well under way. The 300 or so varieties comprising their old collection have been transplanted and over 300 additional varieties have been added through the generosity of our members. This garden should be a beautiful sight in the spring of 1922, at which time we hope our annual meeting may be held in New York so that we can all visit it.

We have also co-operated by supplying several hundred plants of bearded Iris to the Cornell Test Garden and a smaller number of Japanese Iris to the Brooklyn Botanic Garden for special study, and we have had requests for help from several other gardens, to which I hope we will be able to supply some plants next year, for these show gardens are absolutely necessary for our work in the future of publishing standard descriptions of Iris varieties.

Based on the check list we have begun the work of registration of new varieties from month to month in THE FLOWER GROWER and we have also begun to compile the history of Iris breeders and Iris growers in various parts of the world, many of our most prominent growers having consented to write of their work for us, and we have at hand already a 7,000 word article concerning Sir Michael Foster and his work which we hope to publish in bulletin form during the coming year if our funds will permit.

We have made but little progress towards a library of books, magazine articles, photographs and lantern slides and the need of such a library has lately been emphasized again by requests which have come in from various sources. I hope another year may show progress in this direction.

It has been my privilege this fall to meet many of our members in the Central West and to talk over with them our work and ask their advice, their criticism and their desires for the future. I have found that nearly all of them want a bulletin about varieties before they want anything else and we shall endeavor to publish such a bulletin as soon as possible. I wish that more members would take the trouble to write to the Secretary or myself expressing their views, for we cannot do our part in giving our members what they desire unless they do their part in letting us know what they want.

I have met this fall a large number of persons interested in Irises, so many in fact that I do not see why our membership cannot be doubled in the future if our members do their part in telling their friends about us. The work that we can do of course will depend upon the number of members that we have.

We have met from our treasury this year some unusual expenses co-incident with the formation of the Society and we are finishing the year with a fair surplus in bank, as well as with $700 invested in Liberty Bonds from life memberships, from which we can use only the interest.

While I am not in a position to promise what we can do within the next year, I very much hope that we will be able to publish two or more bulletins, to offer more prizes at various flower shows and to make ourselves more useful to our members than we have during our first year when our time was so much taken up with organization matters.

JOHN C. WISTER,
President.

COMMENTS BY SEC'Y STURTEVANT.

I wish to add a few words to Mr. Wister's review of our brief past and to call yet again to your attention some of the ways in which each of you may further the interests of our Society.

All members should have received the Bulletin on Culture, and begin their subscriptions with the May issue of THE FLOWER GROWER, whether they joined in June or in October. To the Charter members we were able to send the earlier numbers and, through the courtesy of the Peony Society, their Bulletin dedicated to the American Iris Society. The Official Data Cards are, of course, at your disposal. Our exhibitions have been open to the flower-loving public. We hope that what little you may have lost by joining us late in the year you may look upon as a sort of initiation fee, and not delay the payment of your dues for 1921. The Postal regulations demand paid-up subscriptions to THE FLOWER GROWER and it is hardly fair to all our members to send issues to those who are dilatory in payment. I hope that many of you will take this opportunity to let us know your wishes and might I suggest that a membership would prove a delightful Christmas present to a garden friend? If you let us know in time, the Bulletin will reach them promptly with your card enclosed.

And now let us see what is before us. Mr. Wister has already spoken of the progress made upon the check list. We have also descriptions of at least five hundred varieties ready for checking in the Trial Ground and subsequent publication, and it is quite probable that a classification of garden varieties will be accepted. Much material is at hand for Bulletins of a general nature. There will be one early in the year at any rate and if it does not seem desirable to publish a check list, symposium, or something of that sort, there should be yet another coming. In addition there is every prospect of continuing our monthly page in THE FLOWER GROWER.

There are two conflicting demands upon our finances: our publications and exhibitions. If we can do the last by merely fostering local Iris shows with the small expense that was connected with most of them this year, we can do much in the line of publication. In other words if Honorary awards, medals and stock prizes contributed by our members are sufficient, we should be able to foster exhibitions in many cities and yet give our many members who are far from these centers their money's worth in Bulletins of permanent value.

Exhibitions are of great publicity value, but show gardens should prove an even better investment, not only for our Society, but for Horticulture in general, and for the development of a community interest in the pleasures of gardening. I have received a number of requests for such help. Iris plantings have been well started in Nashville, St. Thomas, St. Louis and Columbus, but so few members have responded to our appeal for plants for our official Trial Grounds that I have been able to give but general encouragement to these other appeals. Here is a possibility of development that depends wholly upon our members as individuals. Get your Iris friends together even though they are not all members; get in touch with your local park board and start an Iris planting near by. If you have the real garden and community spirit you will even then have a surplus to share with others in distant cities and as the years go by an Iris planting will be a common feature of our parks. It will be a matter of years, but is it not a vision worth while?

NOTICE.—The annual dues for 1921 should

be sent to Frank H. Presby, 95 Upper Mt. Ave., Montclair, N. J., by January 1, 1921.

Suggestions for the Bulletin to be issued in January or February should be sent in promptly and remember that we need notes for THE FLOWER GROWER.

Copy for advertisements to be inserted in the forthcoming Bulletin should be sent to the Secretary at once. The rate is $5 per inch.

REGISTRATION. Firmanent. Intermediate, a larger, richer Fritjof. H. W. Groschner.

P. S.—Re. Iris Caterina. An Iris that has been the first of its type, a fine parent and so widely cited as to be of interest even though it does not prove altogether easy to grow under some conditions. In my well-drained garden it has made a lovely clump for over ten years with absolutely no trouble, and on the Pacific coast I understand that it has more than proved itself. That it is subject to rot and winter-killing under some conditions cannot be gainsaid. As a matter of fact I did not highly recommend this variety but merely used it to typify what we might expect from seedlings of *cypriana* or its close relative *Ricardi* (*mesopotamica*), many of which are our finest representatives of the Iris family. R. S. STURTEVANT. Sec'y.

THE IRIS.

The Twelve Best Irises.

BY JOHN C. WISTER.

[*Written expressly for The Flower Grower.*]

I was glad to see in the October issue, Mr. Wm. S. Johnson's note on "The Twelve Best Irises," not because other Iris growers will agree with Mr. Johnson's opinions in all cases, but because it is an excellent list, and as such it will provoke discussion, induce other growers to send in similar lists, and give us in time, what we most need, namely, a consensus of opinion in variety valuation.

Of the varieties Mr. Johnson mentions, *Pallida Dalmatica, Rhein Nixe, Iris King,* and *Loreley,* would certainly appear among the first dozen chosen by most Iris growers. There would be more difference of opinion about the remaining eight. Some would say that *Isoline* with all its beauty was sometimes a shy bloomer and therefore should not be rated among the first twelve; I, personally, should include it, but on Monday, Wednesday and Friday I should probably prefer *Dr. Bernice, Arnols,* or *Jacquesiana,* to *Prosper Laugier,* while on the other days I might agree with Mr. Johnson. Much as I like *Eldorado,* I should substitute *Quaker Lady* for it, and I would substitute *Ma Mie* for *Jeanne d'Arc,* and *Othello* for *Archevêque,* although these two latter varieties are not really comparable.

The last three would be still harder to choose. I would want a yellow self such as *Flavescens* or *Aurea* to be included rather than a squalens like *Queen Alexandria* (though I admire it very much) when we already have *Isoline* and *Quaker Lady,* and many people would feel that *Lohengrin* was too much of *Pallida Dalmatica* type to be included and would suggest *Juniata* or even the early *Brionense.* This would be a fair criticism but I think I would vote with Mr. Johnson on this point. Most people would agree that *Monsignor* is worthy of a place in the first twelve; I personally do not care enough for it, and would rather choose from a wide range of color and add *Petit Victory, Parc de Neuilly, Mithras, Gajus, Mrs. H. Darwin, Montezuma, Mary Garden,* or a number of others.

From the above notes, my choice of the Best Twelve might be: *Pallida Dalmatica, Rhein Nixe, Iris King, Loreley, Isoline, Arnols, Quaker Lady, Ma Mie, Othello, Flavescens, Lohengrin, Gajus.* I hope other readers of THE FLOWER GROWER will criticize this list, as well as Mr. Johnson's and that we may have during the winter months a lively discussion on this question, somewhat on the same manner, if not as acrimonious, as the discussion concerning the best apple varieties which has been going on in the columns of an English paper these past two years. I hope also that the Iris Society will conduct a symposium on Iris varieties as soon as possible.

It should be borne in mind that the above list excludes entirely the early flowering sorts, otherwise *Fritjof, Florentina,* and *Kochii* would certainly appear, and excludes also novelties, otherwise *Lord of June, Lent A. Williamson,* and others would have to be squeezed in somehow. Merely to start a discussion let me suggest that the best early varieties are: *Azurea, Chamaeiris, Socrates, Statellae, Stewart, Fritjof, Helge, Ingeborg, Prince Victor, Royal, Florentina, Kochii;* and that among the older and newer novelties which are obtainable in American nurseries, the following dozen are good: *Oriflamme, Opera, Dejazet, Crusader, Lord of June, Dawn, Lent A. Williamson, Afterglow, B. Y. Morrison, Queen Caterina, Reverie, Shekinah.*

"Best Ten" Irises.

The Secretary of our Iris Society, who writes so delightfully for us in THE FLOWER GROWER and in the *Bulletin,* asks for our co-operation with notes from our experience, yet how often and often we put off our good intentions of doing so.

In Sept. in THE FLOWER GROWER, we were asked for personal likings "say a list of ten or so." This sounded easy, but it is not so simple a problem. In a picture garden for example, meaning a garden in which one plans certain effects of color, grouping and so forth, for different seasons, many an Iris (we confine ourselves in this list to pogoniris) would prove a disappointment after its blooms were over, if its sheaf of good green leaves disappeared also, yet many would thus fail, and a gap be left in one's background. Such ones as *Minnehaha, Isoline,* and all those having the habit of (almost) vanishing foliage. Their bare rhizomes need the full sun to ripen, and though overcrowding annuals would soon close the empty space, the Iris would miss their needed midsummer baking, and give sparse bloom the season following.

Again for a "picture garden" one wants to know their habits, low or high growth, quick increase of rhizome, quantity or meagreness of bloom. All of this has been touched on before, yet it influences the personal liking of this list, and must perforce be mentioned once more.

My ten will not include many of the much heralded novelties, or even any, though mine are still new to most people only excepting our inner circle of the A. I. S. As for the super-novelties, I am inclined always to see, before I believe, as a true doubter should. But I know about them, for like our secretary, I have an over-cultivated taste in catalogues and peruse them all. The list names more than ten, the intermediate *Dorothea* being so far and away the best of that class, also two seedlings that may someday take their place in the Iris world, in memory of Frank Thomas, the lad who hybridized them, and who gave his life in the War.

Afterglow, Rhein Nixe, Archevêque, Muee d' Orage, Prosper Laugier, Lohengrin, Peacock's Eye, Dorothea (int) the indispensable *Flavescens, Florentina, Mad. Chereau,* and the seedlings, one large white, faintly flushed pale blue, the other with yellow, both as beautiful as any of the above.

F. E. McI.

Siberian Iris.

I believe I have tested about all of the standard varieties, and have discarded all of them but *Lady Godiva, Snow Queen* and *Superba. Lady Godiva* is a blush white, and the earliest of all. It blooms with the first tall bearded Iris. *Snow Queen* is a large ivory-white with yellow at the base of falls. *Superba* is a large violet-blue, and has handsome foliage reaching nearly to the flowers. This is by far the best of the standard varieties of its color. It has a good root system, and will bloom freely without being transplanted longer than any other variety.

Orientalis has a very good flower, but is a shy bloomer, and the flower stalks are too short.

I have seen two articles in the last few months in Eastern periodicals about the *Siberica Blue,* but by the description it was nothing else but the *Orientalis.*

I have two rows of this, one 20 rods long, and the other 30 rods, and they are a solid matted row two feet or more in width. At least I did have two rows, but we had a great time in plowing up one of them this season, and will do the same with the other row next season.

The *Siberica Alba* and *Blue* are not worthy of being grown, and why grow such poor varieties when there are others far superior to them?

Blue King does not bloom freely with me, and the flower stalks are short.

WILLIS E. FRYER.

The discussion of varieties is always helpful, and even though it might not be possible to fix exactly on the best ten or the best twelve varieties as indicated by the above articles, yet there are always a few standards which are included in every list. In other words, there are a few varieties of outstanding merit which are recognized by all. This applies not only to the Iris, but to Peonies, Gladioli, Roses, Dahlias and all other flowers as well.

The Madonna Lily.

Propagation of the Madonna Lily.

By David Griffiths, U. S. Dept. of Agriculture, (Washington, D. C.)

[*Written expressly for The Flower Grower.*]

THE EDITOR of The Flower Grower on page 152 of the current volume calls for directions for the culture of *Lilium candidum.* It is not surprising that so old and so familiar a plant as this Lily should be such a stranger to so many growers, when its propagation is considered. We have been depending on the foreign propagator too much.

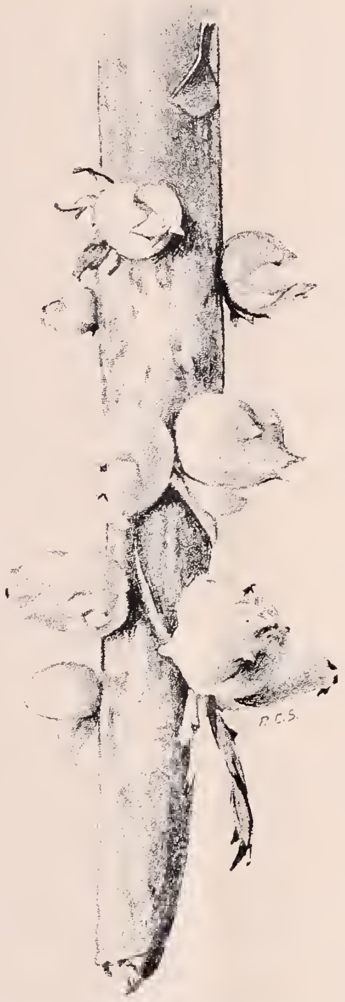
It really is one of the easiest of Lilies to grow. It is on a par with *Lilium longiflorum, L. myriophylum,* and *L. tigrinum.* It is likewise most readily propagated by several methods.

Seed—It is seldom that seed is produced, but when a set is obtained germination is readily accomplished. I have gotten seed but once, but occasionally hear from people who do get it. It is suggested to the readers of The Flower Grower who have clumps of this Lily, that they hand-pollinate with its own pollen and with that of some other species. Seedling strains may give us greater vigor than the stocks which have been propagated so long vegetatively.

Scale—This is the method almost universally employed in increasing the stock of this species. On Puget Sound we scale the bulbs usually in July, shortly after the plants have flowered, and plant the scales in beds as we do Tulips, one or two to the inch in rows six inches apart, where they remain two years undisturbed. They are covered two inches deep. The resulting bulbs begin to flower the third year.

If one has a greenhouse in any region where the temperatures run high in summer, the propagation can be very much accelerated. We have been able to get the old scales all transferred into bulblets between June 20 and October 1, by keeping them on moist sand under the benches of the greenhouse. The space under the benches was closed in by burlap. The scales were kept in precisely the same atmospheric condition as required for the propagation of Hyacinths except that they were laid on the sand under the benches instead of on wire trays. It will be readily seen that this trick is a decided advantage, inasmuch as it puts one a year ahead in the production of these bulbs from scales. If planted in the open ground it takes a year to get the scales used up. In the vicinity of Washington, D. C., the bulbs are mature in late June and can then be scaled. By late September the scales are used up and the bulblets start to root and form top growth. They can then be planted one and one-half to two inches deep in the open ground.

Stems—There are very few crops in which the waste product can be used for propagation as it can in this Lily. As is well known, the foliage commonly dies in this Lily shortly after the flowers have faded. If the flower stem is cut say within a foot of the ground, as is common in marketing the flower, the remainder of the stem can be used in propagation. With a twist and sharp pull sidewise the base of the stem can be easily pulled out of the bulb, with apparently no injury to the latter. These old stem bases can then be layered in sand and in four months will produce six to fifteen bulblets, some of which may flower the second year and many the third.



A propagated stem of *Lilium candidum* slightly reduced. The stem was forwarded to Washington, D. C., from Bellingham, Wash., about the middle of July, and immediately went into the Hyacinth propagating chamber under the bench. It showed bulblets in two weeks. It was photographed September 25, 1920, when the bulblets were fully formed and ready to be planted out.

There are various ways of handling these stems. We have had good success with them in the same chamber as Hyacinths were incubated, *i. e.,* under benches in the greenhouse as described above. We have also had good propagation in a month or six weeks' longer time when the stem bases were layered in sand, where the conditions were not altogether dry but still not moist enough for plant growth.

The method of propagation from the stems is to be recommended as quick, efficient and inexpensive. Its application, furthermore, is not confined to this Lily. It has a very wide application in the genus, as does also the method by scales.

In the Puget Sound region it is the universal custom to jerk the stems out of the bulbs and clean up the beds as soon as the flowers have faded. There is apparently no evil effect from the practice. Whether this practice would be safe where July and August are wet months is not known.

Bulb:—There is a propagation occurring naturally by splitting up of the old bulb, but in this species it is a rather slow method of increase, for the bulbs get very large before they split where conditions are suitable for the best development of the species.

Suggestions for Growing the Madonna Lily.

Shipments of Madonna Lily (*Lilium candidum*) bulbs from France seem delayed this fall and although early September planting is always recommended, last spring I saw some beautiful specimens of these Lilies from bulbs planted much later. While fall growth is imperative the top growth starts so quickly after planting, many gardeners have splendid results from late plantings.

As soon as possible after bulbs are received, plant in the following manner: Dig a hole eight inches deep (with a sharp trowel) put a layer of sand in the bottom, lay the bulb on its side and cover entirely with sand. Then fill the hole with soil. Do not put on the winter covering until the ground is well frozen, then cover with about six inches of straw or leaves (never manure.)

In the spring when I uncover my Madonna Lilies I sprinkle a teaspoonful of ground bone-meal in a circle three inches from the stalk, rake this lightly in the soil and repeat this feeding when the buds begin to show. This method provides the necessary food for spring growth.

Some claim a layer of clay underneath the Lily bed is necessary to conserve moisture, but my Lilies grow beautifully in a very sandy garden soil. It is true I water them during periods of drought late in the season as well as during blooming time. Possibly this accounts for their vigorous growth.

Madonna Lilies are often advertised as being of the "easiest culture." Does not "easy culture" mean lack of care to some gardeners? Care in this case means providing food and water and stirring the soil frequently, especially just before blooming time.

After two or three years the bulbs often become crowded, then it is necessary to reset them. This is done in late August or when the tops show that the bulb is ripe.

These delightful Lilies need not be grown in beds even if one wants them for cutting purposes. In June one of the most beautiful pictures in my garden is the stately Madonna Lily blooming with the Delphiniums (Larkspur) in my flower borders, an old, old combination, but one so truly lovely it always seems new. Mrs. Francis King tells in her interesting book, "The Well Considered Garden," how her Madonna Lilies are planted in groups with lemon and white Hollyhocks, another fine combination.

It is well to remember that patience is one of the qualifications of a successful gardener, so don't be discouraged if your bulbs disappoint you the second year find out the trouble and correct it.

M. B. Homans (Iowa).

Culture of the Madonna Lily.

The Madonna Lily should be planted in the sandiest, dryest part of the garden. It is a bulb composed of overlapping scales. If these scales retain moisture the bulb rots. Mrs. D. R. Andrews says hers "bloomed well the first year, but not the second," which is the usual experience of growers, because they water them freely when the leaves begin to turn brown immediately after blooming. This is the resting period and they then turn brown and the stalk dies and should be removed and burned. Along in September the green leaves appear and remain for a protection against fall rains and the winter's snow. From the center of these leaves, the next spring, the flower stalk appears and you have your beautiful Lilies in June. The secret is good drainage and keeping away from them with the garden hose. They do well on a hillside or in a raised bed and in sandy soil and should be separated in August about every third year. Stock is advertised for sale in August.

By the way, all bulbs that are left in the ground should rest and be kept dry. Planting annuals or Geraniums over your Tulip or Narcissus bulbs and watering them may make your garden more attractive during the summer, but it soon ruins your bulbs for the next spring's blooming.

Mrs. Wm. Crawford (Indiana).

Madonna Lilies for Cut Flowers.

In answer to Mrs. D. R. Andrews, in regard to the culture of Madonna Lilies, I do not think they would be a paying crop to cultivate for cut flowers alone, as there is only one flowering stalk to each bulb, and the bulb has to be three years old before it blooms well. I have grown them successfully for many years, and they are very lovely and fragrant, and I don't think a garden is complete without them.

They are slow to multiply and will not bear planting close to any strong plants. Those that are grown in partial shade are taller, have larger flowers and the flowers keep longer when cut.

The bed should be deeply dug, the soil very rich in decayed vegetable matter, like woods earth or well rotted leaves, with a dressing of lime and wood ashes if the soil is sour. Do not plant after an application of lime for at least one month. Plant the bulb about two inches deep, and in the month of August in this climate.

I have never had disease or insect pests to trouble the Madonna Lily. With me they are very hardy, and are altogether one of my best loved plants.

Mrs. O. A. Runyon (Ky.)

Planting Madonna Lily.

Grace Tabor recommends that "Madonna Lilies (Lilium Candidum) be planted in August, or before September 15, under 4 inches of earth, always dusting the bulbs first with powdered sulphur and setting them in a three inch pocket of sphagnum moss." A good friable loam should be the earth used. Keep manure away from the bulbs. Keep free of weeds but do not cultivate deeply. A position sheltered from the hot afternoon sun would be an ideal location.

These Lilies can be obtained in quantity from any of the large firms dealing in bulbs for fall planting. Owing to the lateness of the season, would recommend that planting be deferred until next August.

Chas. E. F. Gersdorff.

Winter Bouquets.

[*Written expressly for The Flower Grower.*]

Under the above title the October issue of *The Woman's Home Companion* has a brief article with several illustrations, none of which show particularly artistic arrangement or convey much in the way of information. The idea, however, of winter bouquets, is a most excellent one and some of the suggestions contained in the article referred to are interesting.

Milkweeds have been used for winter decoration for many years. Pick the pods when they are still green and allow them to dry slowly, fastening a fine wire around them so that when they are dry the opening will be small. Then just a few of the fairy-like seeds will get out. A drop of glue at the top of the opening will anchor them in place. Arrange milkweeds thus fashioned in a tall vase with another variety of weed, like the common mullen. Milkweed pods with all the seeds removed may be formed to resemble birds. The bill is a bit of red sealing wax put on the tip of the pod and molded into shape while warm, and the eyes are black headed pins, and the wings are cut out of scraps of woolen material. Milkweed pods picked after all the seeds have blown away, and decorated with oil paints make an interesting bouquet. The smooth inner surface should be colored brilliant orange, bright blue or yellow, and a darker or lighter color used for the straight section that holds the seeds. The rough, gray exterior of the pod forms a pleasing contrast to the smooth, brilliant interior.

The brilliant bittersweet needs no artificial decoration. It is always decorative and all that is necessary is to select it at the right stage of maturity. The little wild Aster with its starlike dry flowers, makes a charmingly dainty bouquet for a slender vase.

Another decorative seed pod is that of the evening Primrose. The pod is much prettier than the rather insignificant flower itself. When treated to a coat of bright color, with the inside of the flower form done in a contrasting color, a very Egyptian-looking creation is evolved.

The colors used in decorating are artists' oil paints mixed to the required tone with white lead and then thinned out with common floor varnish. The colors should be kept bright and clear, brushes cleaned with turpentine when changing colors. Black paint is simply black enamel applied so as to color the plant entirely.

So much for what *The Woman's Home Companion* has to say on the subject of winter bouquets. The article speaks only incidentally of the teasel and the cat-tail, and lays much stress on the artificial decoration of the materials with paints.

We would point out that the decorative possibilities of the cat-tail are considerable for rooms of comparatively large dimensions, and if small cat-tails are available they may be utilized most anywhere. No artificial coloring is needed and they may be cut at a stage of maturity when the colors will be pretty well preserved.

Then the teasel as mentioned in the article is suggested to be wired like the milk-weed. We have known the teasel for years and it needs no wiring. When cut after full maturity and while the leaves are still green it will retain a fair amount of the hues of autumn, and although the natural brown of the teasel seed pod itself might be improved if it were colored brighter; we prefer to leave it in its natural coloring.

Then as a winter bouquet, the Hydrangea Paniculata Grandiflora, described by Mrs. Hammond on page 183 of our November issue, is very valuable and it is quite surprising how the beautiful natural blending of colors of this flower are preserved without any other attention than to cut them when at the right stage of development.

We have in our office two large bunches of cat-tails, about five feet in height; two teasel bouquets, about four feet in height, set in ordinary ten inch glass vases, and then on our desk we have a bouquet of the Hydrangea Paniculata Grandiflora above referred to. Where one has not a greenhouse the winter bouquet idea as above outlined will surely prove interesting.

Winter bouquets of the so-called "Ever-lasting Flowers," which are known to the trade as Immortelles, are, of course, too well known to be necessary to mention. The more recent developments in this particular field are really beautiful.—Madison Cooper.

THE ROSE.

Loss of Vitality in Roses and How To Prevent It.

It is well known among thoughtful propagators that there is a loss of vitality in many varieties of Roses, and why such a condition exists. The causes are numerous.

In the first place, there are too many varieties to contend with, a great many of the new introductions are poor field growers in our Northern climate, and will only make satisfactory field growers in the Southern and Pacific coast states.

We have, however, a great many good old-time Roses that have been propagated for the past forty or fifty years, some of these were old Roses when the writer was a boy. The complaint is, that they are losing vitality, the reason is that they have been propagated with the main object of increase in numbers, their natural requirements being entirely ignored. Roses are not short lived plants when grown in good soil, and in a climate favorable to their requirements. When we start and continue to propagate and treat them as hardy shrubs, and not as exotic plants, their vigor will be retained, and our *Hermosa*, *Jacqueminot*, and other old-favorite varieties will remain as vigorous as they were half a century ago. How can we do this is the question?

First secure healthy and vigorous field grown plants to propagate from. Use good healthy wood only for cuttings. If in a section of the country where you can root them outside from hard-wood cuttings, there will naturally be no deterioration in the stock, as only the best matured wood will root from hard-wood cuttings, with few exceptions. The exceptions are in the hardy Wichuriana hybrid class. These root very freely.

The Northern propagator can seldom secure good field-grown wood of the Tea, Hybrid Tea and Hybrid Perpetual class for propagating with any certainty of success. He naturally grows his stock plants under glass, and in pursuing this method his young plants will gradually degenerate, unless he continually renews his stock plants.

Nearly all varieties and classes of Roses that fail to make a satisfactory field growth in the Northern States, usually prove very satisfactory growers in the Southern and Pacific States, and in some of those favored localities remarkable results have been obtained, and one-year old own root Roses grown as heavy as the best imported budded stock. I am, and always have been, a strong advocate of own root Roses for our American climate. The Rose originators, at present, are adhering too close to the Hybrid Tea class, only a limited number of varieties in this class are good field growers in our climate, although all right for the cut-flower grower under glass.

From the introduction of the Hybrid Wichuriana and Rambler classes the Northern nurserymen can select good material for field planting. In these there is no noticeable deterioration, and one can safely line out a plantation in Spring with small field-grown cuttings with the assurance of having good plants by fall. Such varieties as *Dorothy Perkins, Minnehaha, Hiawatha, Gardenia* and the peerless *Excelsa* or *Red Dorothy Perkins, Dr. W. Van Fleet, Silver Moon, Farquhar* and others will grow from three to seven feet and sometimes more the first season. *American Pillar* is in a class by itself. *Climbing American Beauty* also, and no one should forget the *Christine Wright* and many others.

The Rugosa class and its hybrids will prove of great value to the Northern nurserymen. They are good growers and remarkably healthy.

So with the best material to select from, the future of the Rose outlook is bright, as the nurseryman has ample material to select from, as well as the grower for cut flowers. —ANTOINE WINTZER in *National Nurseryman* (1913).

Late Blooming Roses.

Sec. Chas. G. Adams, of the Auburn New York Rose Society, reports Roses in bloom on November 3rd, 1920, as follows:

M. Soupert, Madam Herriott, Queen Mary, Mrs. W. Quinn, Harry Kirk, Caroline Testout, Florence Pemberton, Mrs. S. T. Wright, Frau Karl Druschki, Radiance, Geo. C. Wand.

Auburn Rose Society.

HINTS FOR WINTER PROTECTION.

"As Rose lovers are now planning to protect their favorites against the Winter, the Auburn Society feels that a few hints may not come amiss.

"In this climate Tea Roses and Hybrid Teas need Winter protection and the vitality of the Hybrid Perpetuals is better conserved thereby.

"Although different methods are used the one generally recommended by such experts as Captain George C. Thernas, author of the Practical Book for Outdoor Rose Growing, Henry A. Dreer, George H. Peterson and M. S. Walsh, is simple and feasible.

"The protection that will be described should be deferred until there is no longer danger that the ground may freeze. One need not fear that a few sharp frosts will injure the canes in the present dormant state. Generally speaking it is well to cut the canes of the Hybrid Perpetuals down to a height of about three feet and those of the Hybrid Teas to eighteen inches.

"Remove and destroy as far as possible all fallen and adhering leaves affected with black spots as on these will live the spores which will infect the plants next season.

"Before the ground freezes, hill up the earth about the base of the plants to a height of from eight to ten inches as you would hill up potatoes. If you have sufficient earth in the bed or if you can secure it elsewhere to hill up to twelve inches, so much the better.

"Then after the surface of the ground has frozen, fill up the hollows created with a strawy manure and leaves and finally place more leaves and such tetter as may be available over the entire surface of the bed. If you have cornstalks with the dried leaves, place them over the beds about the bushes; they make an admirable protection.

"Bundle the canes of the Hybrid Perpetuals together, wrap them with straw and burlaps, and tie them securely.

"Climbers should be laid down and covered with burlaps pegged down; they should, however, not be pruned.

"The method of protection described has been used in this locality and found satisfactory.

"To transmit reliable information from authentic sources in the Culture of the Rose is one of the objects of this Society; therefore anyone desiring further information may feel at perfect liberty to address Charles G. Adams, Secretary of the Auburn Rose Society, in charge of the Question Box.

"SAMUEL E. HILLGER, Prest."

In Mr. Gersdorff's article, "The History of the Rose in America," in the November issue, credit for origination of the Setigera Hybrids was given to John Feast, of Baltimore, where it should have been given to Samuel Feast who was the true originator.

Mountain Ashes.

The abundant flowers on these trees and shrubs last spring have been followed by an unusually heavy crop of fruit on most of the species, and Mountain Ashes have probably never been more beautiful in this part of the country than they are this autumn. Their fruit is now the most conspicuous in the Arboretum and deserves the attention of persons interested in plants which produce handsome and conspicuous fruits. There are two principal groups of Mountain Ashes in the Arboretum, one on the bank above the Shrub Collection and near the Forest Hills gate and the other on the left hand side of the Valley Road near and under the group of Swamp White Oaks. None of these plants have more abundant or brilliant fruits in larger clusters than the two Mountain Ashes of Northeastern North America, *Sorbus americana* and its variety *decora* with broader leaflets and larger fruits. The value of these two trees is increased by the brilliant colors which their leaves will take on now in a few days. The various forms of the European species, *Sorbus Aucuparia*, in the collection are all fruiting well this autumn, the handsomest perhaps being a tree from Northern Austria known as variety *moravica* or *dulcis*. This is a tall, slender, fast-growing tree with smooth bark, leaves with narrower leaflets than those of the common form, and larger and sweeter fruit which in its native country is used as food. The leaflets of the European Mountain Ash vary greatly in width, and in the group near the Forest Hills gate there is a handsome specimen of this tree with exceptionally narrow leaflets. The branches of the large plant of the Japanese *Sorbus commixta* in this group have never before been so weighed down by its clusters of small fruit although it has been growing in the Arboretum for more than thirty years. The bright orange and red autumn colors of the leaves add to the value of this tree. Near it a small plant of *Sorbus amurensis* from Eastern Siberia is fruiting well for the first time in the Arboretum. The plants of *Sorbus pekinensis* which are in the Valley Road-Group have been covered with their large, open, drooping clusters of yellow fruit which is now beginning to fall. Both in spring and autumn this slender tree with narrow leaflets is handsome and conspicuous. It well deserves a place in collections of such plants. In this group, too, *Sorbus pohuashanensis*, so named from the mountain range in northern China, the Pohua-shan, where it was discovered, is covered with its erect clusters of large orange-red fruits. It is a handsome plant with leaflets broader than those of the common form of the European Mountain Ash but no better for gardens in this country than that tree which is gradually becoming naturalized in this country. In the Arboretum, at least, the handsomest trees have sprung from seeds scattered by birds. One of the handsomest and certainly the most interesting Mountain Ash in the Arboretum is growing in the nursery near the top of Peter's Hill. It is a fast-growing tree of perfect shape, with a straight stem covered with smooth pale bark, leaves with unusually narrow leaflets, and wide, convex, compact clusters of pink fruit. No other Mountain Ash which is now known has fruit of this color. This tree which was grown in the Arboretum from seed was first thought to be a form of *S. pekinensis*; it is now believed to be a hybrid of *S. Aucuparia* and *S. pekinensis* to which the name of *S. Arnoldiana* has been given. In the convex, crowded clusters of flowers and fruits it shows the influence of the European plant; in the narrow leaflets and in the size of the small fruit it resembles *S. pekinensis*, while in color the fruit is intermediate between those of its supposed parents.—*Arnold Arboretum Bulletin.*

Plant Names and Their Meanings.

[*Continued from page 196.*]

coarse, common, or spurious. It is often thus employed in flower names, as Horse-mint and Horse-radish.

The names Blister Flower, Blister Wort, Blister Plant and biting Crowfoot are applied to several species noted for their acrid and biting juice, especially *R. sceleratus*, *R. bulbosus* and *R. acris*. The name of St. Anthony's Turnip, applied to *R. bulbosus*, probably has the same suggestion. The bulbous base of the stem is not unlike a Turnip in shape and St. Anthony is the saint above all others for which hot and blistering things might properly be named. This species is also called St. Anthony's Rape. *Ranunculus sceleratus* is called Water Celery and Celery leaved Crowfoot, but in reference to its leaves and not as a translation of the specific name. The worthless properties of this species have earned for it the name of Cursed Crowfoot, but it is apparently not the only species cursed for *R. arvensis* bears the names of Hell Weed and Devil's Claws. To this species also belong Starve Acre and Hunger Weed. The plant is said to receive the last two appellations because when it is present in the field the crop will be short and the owner brought to want. Devil's Claws quite likely refers to the way the plant lays hold on the field rather than to any particular thought of the devil. *R. repens* is called Ram's Claws though no ram we have ever seen had claws. Possibly the name is derived from the Icelandic *ramr*, meaning strong, in allusion to the way the species grasps the soil. Sitfast is another name applied to this plant whose hold on the soil makes it especially applicable.

Ranunculus ficaria is called Figwort from the fig-like shape of its roots. It also bears the name of Lesser Celandine, the true Celandine being a yellow-flowered plant of the Poppy family. Another of its names, Crain, is unmeaning enough until we discover that crain or cran is an ancient name for marsh, hence Cranberry and perhaps Crane, a stork-like bird. *Ranunculus trichophyllus*, owing to its much divided leaves is known as Water Milfoil. The true Milfoil is usually regarded as belonging to the Yarrow genus (*Achillea*). Double forms of *R. acris* are sometimes known as Bachelors' Buttons, as are many other buttonlike flowers. Finally, Cuckoo-buds applied to some species of *Ranuncalus* finds authority in Shakespeare where

> "Cuckoo buds of yellow hue
> Do paint the meadow with delight."

The Poinsettia.

As a relative newcomer, the Poinsettia is fast edging its way to the front as a favorite Christmas flower and the florists' shops and sidewalk stands are putting forward the brilliant scarlet flower as one of the most popular gift plants. Of ancient origin, for its history is traceable all the way back to King Juba, of Mauretania, after whose court physician the species is named, it jumped from Morocco to Mexico and made its way into the United States less than a hundred years ago.

The popular name of the Poinsettia is not known in botanical literature, but because Joel R. Poinsett, Charleston's celebrated politician and statesman, first introduced it to the Palmetto State, it has borne his name in the trade. While minister to Mexico during the administrations of Monroe and Adams, Poinsett perceived the beauty of the plant. Bringing it home, he started its cultivation, interested the florists and botanists of the South and it at once became popular. While it is still largely regarded as a household plant in the North, in the South many bungalows and cottages are surrounded by borders of flaming Poinsettias which add a touch of lively color to the lawns.—*Philadelphia Bulletin.*

THE GLADIOLUS

Experiments With Gladiolus Cormels, "Buds" of Corms, and Corms Cut in Pieces.

BY CHAS. E. F. GERSDORFF.

[*Written expressly for The Flower Grower.*]

All cormels on hand at beginning of season of 1919 were carefully peeled and planted in paper pots in flats and kept in sunny windows. The per cent. of germination and per cent. of corms harvested with dates when first and last showed growth are given in Table I:

GERMINATION OF PEELED CORMELS.

Variety	Time required for first to show growth (days)	Time required for last to show growth (days)	Per cent. germinated	Per cent. harvested
Annie Wigman	20	41	100	100
Augusta	57	89	100	100
Aurora	35	43	50	50
Avalon	20	41	100	100
Bopeep	55	83	50	50
Belle Alliance	49	55	50	50
Blood Spot	24	38	100	100
Barclay	32	89	100	100
Blue Orchid	62	75	100	100
Challenger	11	83	100	100
Crinkles	19	63	100	89
Crystal White	35	73	100	100
Cameo	44	57	50	50
Cardisun	35	41	60	20
Cinnamon Bear	24	72	88	63
Comanche	--		-	100(x)
Delight	11	19	100	100
Evelyn Kirtland	19	88	78	61
Fire King	25	59	83	83
Freckles	34	38	50	25
Golden King	41	63	100	50
Gretchen Zang	62	100	100	100
Giant White	38	89	100	67
Gil Blas	22	156	80	80
Golden Glory	59	92	100	100
Ida Van	29	57	100	100
Jenny Lind	--	--	---	100(x)
King of Violets	30	51	100	100
Large Buff	32	53	50	63(x)
La Luna			---	100(x)
Louise	38	44	75	75
Lady Janet	70	98	100	50
Mrs. W. E. Fryer	40	52	67	67
Mary Pickford	11	22	100	100
May Toy (Prim.)	28	40	100	100
Mary Fennell	51	78	100	100
Magic	8	94	75	75
Mahogany	33	54	100	100
Morning Star	11	66	81	62
Owosso	33	46	50	50
Princess of Orange	38	49	100	50
Pride of Goshen	83	115	100	50
Pacha	34	53	100	100
Pride of Lancaster	11	75	100	100
Peachblow	11	129	75	66
Purple Pansy	45	63	100	100
Rose Glory	11	50	100	100
Rose Wells	--	--	---	50(x)
Rosy Morn	39	50	100	50
Rosebud	-		-	100(x)
Splendorra	33	66	67	67
Souvenir	32	70	100	100
Violet Beauty	42	61	100	60
Wamba	398	410	75	75(xx)
Wm. Copeland	87	93	100	100
White Ivory	66	72	100	100
Winetka	25	119	22	22
Youell's Favorite	34	58	75	50
Zaidee	.	--	-	50(x)

(x) In one case a few of the corms harvested produced no foliage. In all other cases so checked all the corms were produced without growth of foliage.

(xx) On the day that the corms were harvested it was discovered that Wamba cormels had remained dormant. They were immediately planted outside where they remained over winter with only a light covering of leaves, springing into growth the following spring; the long period for germinating which was here recorded dating from the day they were first planted in pots.

Some of my corms had highly developed "buds" or eyes. I carefully cut these out with part of the corm adhering. They were planted in paper pots and treated as were the cormels. The results are given in Table II:

GERMINATION OF "BUDS" OR EYES.

Variety	Time required for first to show growth (days)	Time required for last to show growth (days)	Per cent. germinated	Per cent. harvested
Diener's American Beauty	--	-	---	100(x)
Evolution	--	--	--	0
G. A. Kuyk	--		---	100(x)
Ida Van	60	65	100	50
Little Violet	-	--	---	100(x)
Mrs. Frank Pendleton	--	--	--	0

(x) Corms were produced without growth of foliage.

An attempt was made to increase stock of a few varieties. The corms were cut into pieces of one eye each and a part of the base of the corm, and treated as in the case of the cormels and "buds". The data are given in Table III:

GERMINATION OF CUT PIECES OF CORMS OF ONE EYE EACH.

Variety	Time required for first to show growth (days)	Time required for last to show growth (days)	Per cent. germinated	Per cent. harvested
Badenia	-	-	--	0
Bleuatre	15	24	100	0
Heliotrope	--	-	---	0
Megonko	27	30	75	50
Mixture	23	26	50	50
Peau Rouge	--	--	---	0
Portland	--	--	---	0

Attempts to increase stock by means of "buds" and pieces of corms were not at all satisfactory, and appeared rather unreliable. In the case of peeled cormels, it is possible that greater success might have attended my plantings if they had been planted outside.

Gladiolus Ideals.

By Alfred C. Hottes, Ithaca, N.Y.

Former Member of the Nomenclature Committee of the American Gladiolus Society.
(In A. G. S. Program 1915.)

A year or more ago over two hundred letters of query were sent to the members of the American Gladiolus Society, especially to the professional men. The answers to these were to give some indication regarding the ideals of a Gladiolus variety. It is the purpose of this paper to set forth a few of the points considered. In studying varieties in the trial grounds, the writer has attempted to describe each variety as it is without trying to say whether or not it is ideal.

The Gladiolus hybridist saw from the beginning that the genus was a pliable one and that the species could be mixed together in such a way that the colors of one might be combined with the vigor, earliness, gracefulness or prolificacy of others. Souchet, Lemoine, Groff, Kelway, Pfitzer, Crawford, Kunderd, Van Fleet, Krelage, and many others, have had in mind a standard of size, vigor, precocity, color or novelty of form, and have reached their ideal in one measure or another. Let us then review the various ideals of the modern Gladiolus.

In form the bloom should be quite round, the upper segment broader than the lower, though not greatly contrasted in size. The central petal of the upper segment may be slightly arched, but it is not usually considered best to be decidedly hooded. Generally the petals should be as broad as long, the three lower ones symmetrical, not smaller nor narrower than the upper ones. Good substance is of prime importance. The petals should be leathery rather than thick and brittle. Clear colors as white, light pink, light or clear yellow and scarlet, are essential for commercial use. Blue is not so good in artificial light, and therefore is of little commercial demand. The darker colors are not desirable for as many uses as are the lighter tints. The self colors are now desired.

The markings found in the varieties are described as dots, tippling (very fine dots), splashes (long, irregular patches of color), feathering (fine markings, originating at outer edge of petals), mottling (irregular spots), blotches (regular large areas of color found on the lower petals in Lemoinei and other groups), penciling (fine lines in the throat, found especially in the Gandavensis and Childsii varieties), suffusion (colors, laid on as though they were painted upon another color), marbling (intermixed or clouded effects), blends (gradual transitions of one tone to another), dashes, flecking and velvety throats. Each of the wild species has contributed to this motley array of markings and diversified color. Where is there a flower with such a vast calendar of markings?

There is a difference of opinion regarding the question of doubling. Some hold that any new feature would add greatly to the popularity; others maintain that "simplicity rather than complexity is the most desirable characteristic to be sought." Would it not be possible that the flowers would last longer if double, and thus be an advantage in a variety for landscape use? Comparatively double or semi-doubles have arisen from time to time, but the fact that they have not been more exploited would indicate their lack of popularity.

The spike should be long enough to cut ten or twelve inches below the blooms and still allow two or more leaves to mature the bulbs. It should be strong enough to hold all the buds erect until the last one has opened. The Lemoineis are reputed to be weak in the matter of taking up water, consequently not affording an opportunity for the last bud to open. Most admirers of the Gladiolus prefer a thin, wiry stem upon which a number of blooms are open at the same time and face one direction. Others prefer to have but one bloom open at a time, so that the spike may last longer. Curved spikes are admirable for vases and artistic effects, but are a nuisance to the commercial man for packing and handling.

Branches are a decided advantage (1) for the landscape variety, (2) for the florist who uses the individual flowers for design work, and (3) for general decorative work. Their presence often indicates a strong grower, and is especially effective in the dwarf, sturdy varieties when the branches bloom at the same time as the main spike. Often in a tall variety the main spike can be cut above the branch, causing the branch to develop quite a good spike which can be cut later. However, the secondaries may take the strength from the main spike, and their removal will help the principal one toward a more perfect development. For packing and shipping, or when used in bouquets and not blooming contemporary with the spike, the branches seem objectionable.

Unless the growth is compact, heavy, erect and vigorous, few varieties are worth keeping because the greater share of the modern varieties are excellent in this respect. It is especially advantageous to have two or three spikes per corm as each shoot will produce a corm for the next year. It is also desirable to obtain varieties of superior reproductive power, although some kinds of great prolificacy are the least admired. A short list of rapidly-multiplying varieties mentioned in the letters in order of their popularity, is as follows:

America
Mrs. Francis King
Augusta
Panama
Baron J. Hulot
Independence
Rose Red
Klondyke
Taconic
Jessie
Niagara
Brenchleyensis
Velvet King
Tracy's Dawn
Taconic
Mrs. Frank Pendleton
Chicago White
Peace

This list does not contain all the most prolific ones, but is arranged according to the number of votes each received.

In the enumeration of ideals, adaptability to great range of soils, disease resistance, non-fading qualities, blooming entirely around the stem, variegations of the leaves, smaller or larger flowers, fragrance, greater adaptability for forcing, hardiness, keeping qualities, number of blooms on the spike, and color or stems have been omitted. Certain of these ideals are at present fulfilled, others will be attained, and still others are not worth seeking. Mr. Groff, at the Royal Horticultural Society Conference on Genetics in 1906, said: "* * * if the breeder uses his full opportunities, his ideal will be a progressive quality, and his standard will advance yearly as he sees the results attained by unlocking the treasuries of ages of the past in scientific, though unrecorded, practical plant breeding."

Prof. Hottes' article above on Gladiolus ideals brings up some very interesting points and good food for thought for originators of new varieties of Gladioli. Ideals develop from year to year and characteristics which would be pleasing this year will not satisfy next year. In other words, we are making continual progress toward perfection, and although we never reach perfection, we may hope some time to approach it. The development of the Gladiolus during the past ten years has been truly marvelous, and even in the five years which have elapsed since Prof. Hottes wrote the article referred to, tremendous strides have been made. The versatility of the Gladiolus in form, season and color can hardly be approached by any other flower.

The Editor.

Exact records on Gladiolus growing are exceedingly helpful. We have a number in hand which will be published from month to month.

Gladiolus Primulinus.

BY JOSEPH JACOB in *The Queen,* (English.)

FOUR PEOPLE OUT OF FIVE, if not a good deal larger percentage, when they think about or speak of the Gladiolus mean those groups and varieties which bloom in ordinary years in the months of August and September. There are, of course, all those more slender and delicate looking ones which bloom earlier in the year, of which *The Bride, Peach Blossom* and *Blushing Bride* are examples, but for the purposes of these notes the word is used in its more popular sense, and the later-blooming varieties alone are included.

What may be called the old and original Gladiolus formed a pretty well-defined group which was known as Gandavensis. This originated sometime in the forties of last century, and was obtained by crossing certain species from South Africa. The strain passed into the possession of the great firm of Van Houtte, of Ghent, and a great step forwards was taken in its evolution when Souchet, the court gardener of Napoleon III, took a fancy to it, and by crossing Gandavensis with allied species produced many new varieties wherewith to embellish the imperial gardens. It is interesting to think that the old Empress who died quite recently in Spain was doubtless in at the start of our modern Gladioli, and if she ever saw the new *primulinus hybrids,* was also in at its latest development. Four score years and ten more than cover its evolution. During this period different workers have originated new groups. Thus, in France, Lemoine, of Nancy, has produced the Lemoinei and the Nanceianus; in America Childs, although he did not originate them, has given us the Childsii and Groff's hybrids; while in England Kelway has given us the Kelwayi. In Holland, too, breeders have been busy, and many good varieties have had their origin there. Up to 1906 or 1907, the above constituted the modern garden Gladioli.

Cicely Mother of Pearl Otranto

A Newcomer and its Influence.

In 1904 an event of supreme importance happened in the Gladiolus world. From fiction and in real life one is familiar with the change that the advent of a new personality is capable of bringing about in the life of a human being. In the August of that year Sir Francis Fox, a member of the celebrated firm of engineers whose activities under the earth and on the earth are so well known that a catalogue is unnecessary, exhibited at one of the Royal Horticultural Shows a beautiful butter-yellow Gladiolus. It was a "self" of the very color that had hitherto existed only in the imagination of the enthusiast, in the same way that the Daffodil farmer pictures an *Emperor* with a red trumpet, or the sweet-pea man a flower with cowslip-colored standard, wings and keel. It was a bit of rare good luck to meet Sir Francis himself at Vincent-square on July 27. Undesignedly, I believe, it happened to be the Gladiolus day of the year. No less than six groups were staged, including two from Holland—which, by the way, like the straightly ascending smoke from a house chimney, is a sign of fairer times. As I was looking at the one which I thought the most beautiful of them all, alongside of my friend, Mr. Arthur Bulley, who, I may say, was roused to a great pitch of enthusiasm by the sight, and was telling me he would like to buy the lot, a small, thin, ascetic-faced man who was also standing admiring, said in a quiet voice, as if half speaking to himself, something to this effect: "Neither Mr. Churcher nor anyone else would have been able to produce all of these hybrids without my introduction of primulinus." We soon thawed, and in the conversation that followed Sir Francis disclosed his identity, and told us how, when he was building the bridge over the Victoria Falls on the Zambesi River, one of the engineers on the spot—Mr. Townshend—found a yellow-flowered plant which struck him as something out of the common; how, knowing his fondness for his garden, he sent him home four bulbs; how he grew these then unknown bulbs in a damp, warm atmosphere in order to imitate as far as possible the climate and conditions of their native home; how at length the precious plants flowered, and how the first was promptly dispatched to Sir W. Thiselton-Dyer at Kew for a name; how, recognizing its value and potentialities, a letter was sent to Mr. Townshend for more; how the "more" at length arrived, and how some of the newcomers were then sent to Kew, Glasnevin, Edinburgh, America, and Holland.

Gladiolus primulinus thus became a world plant, and the immense influence that it has already exercised was clearly demonstrated by comparing the groups of Messrs. Kelway & Son, of Langport, and Messrs. K. Velthuys, Ltd., of Hillegom, Holland, who for the most part staged the older types, with those of Mr. George Churcher, Messrs. E. H. Krelage & Sons, of Haarlem, Mr. G. Cave and Messrs. Barr & Sons, whose collections were either wholly, or almost wholly, composed of the new *Primulinus Hybrids,* or, as they are already beginning to be called, "prims."

Characteristics of the "Prims."

I have already incidentally referred to some of them, but the type is so lovely that it is worth while gathering up the fragments so that none of the points which, in my opinion, constitute their beauty, be lost. The best description that I have ever heard of the large-flowered and crowded spikes of the older garden forms which, once upon a time, collectively composed "the Gladiolus" is the word "clumsy," used by Sir Francis in our little talkee-talkee in the hall. They *look* clumsy compared with the lighter, more wiry "prims." For these we have been to some extent prepared when Lemoine introduced his Lemoinei strain, but eventually by the introduction of new blood (Gladiolus Saundersii), it was changed out of all recognition. History repeats itself in no sphere so often and so consistently as in the evolution of garden flowers from small to larger and still larger, and from narrow petals to wider and still wider. I already see the writing on the wall with regard to the newcomers, "Mene, mene, Tekel, Upharsin"; and I very much fear that the days of the delightful, delicate and dainty *Primulinus Hybrids* are numbered because they have been weighed in the balance and found wanting by an unhappy taste for size and fatness of bloom, as if garden lovers were the eligibles and they the young Jewesses of the fair town of Mogador. Their grace and charm is slowly being absorbed by all-powerful Medes and Persians, or, in plain language by the Gandavensis, Nanceianus, or Childsii types. These, then, are the early, and I believe the most essential characteristics which we should strive to retain. First, the protective craning forward top petal to whose peculiar arrangement their ancestor owes its existence amid the spray and damp of its African home. Secondly, the small, smart, alert-looking flowers which the founder of the race undoubtedly had. Thirdly, the loose setting of the individual blooms on the spike—again a carrying out of the original type. Fourthly, the special color tone which runs through all the earlier hybrids which it is impossible to describe satisfactorily, for it must be seen to be recognized. The limit in all these respects has been reached by Mr. George Churcher's *Woodcote.* Its flowers are as large as I would countenance, and their spacing on the stems just about right. They are a soft scarlet in color, relieved by a considerable, almost white blotch on the lower petals, and as the vase was on the topmost platform of the exhibits its virtues are easily discernible. More than one visitor pointed it out to me as a great beauty.

Among the others which deserve honorable mention there were: *Golden Drop,* shown by Barr & Sons, a fine yellow self, almost as deep a shade as the true primulinus; *Queen Victoria,* shown by Barr & Sons and Mr. Cave, one of those delightful, pale rosy pinks to which I have already alluded; *Cicely* (Churcher), another pretty pink with faint scarlet veinings and stripes, and with warm carmine on the lower petals; *Eurydice* (Krelage), a pleasing rosy pink; *Mother-o'-Pearl* (Churcher), a delicate warm flesh; *Yellow Queen* (Churcher), a good canary yellow with small scarlet markings on its lower petals; *Orange Brilliant* (Cave), a particularly effective variety, deep maize with the upper petals flushed red and a conspicuous mid-rib on the others of a similar shade; *Atalanta,* (Krelage), primrose flushed salmon; *Hermione* (Krelage), a flower with a splendid ruddy glow; *Golden Girl* (Kelway & Son), good canary yellow flowers loosely arranged on the spike; and *Otranto* (Churcher), a pretty shade of maize with conspicuous scarlet markings on the throat of the flower, which becomes more pink with age.

Gladiolus growers are all interested in *Primulinus Hybrids,* a little history of which is given above, and those who have not Primulinus species in their collection, should add it at once. The Gladiolus species are interesting as novelties as well as useful for hybridizing purposes.

American Gladiolus Society.

The next annual meeting of the American Gladiolus Society will be held in St. Thomas, Ontario, Canada, some time in August, 1921. The date will be announced later. Inasmuch as some of our members may wish to attend the meeting of the Society of American Florists in Washington, D. C., it is probable that the meeting will be held during the second week in August. The Secretary would welcome suggestions regarding suitable dates, as well as preferable days in the week for the exhibition.

Having settled the place of meeting for next year the Secretary would urge that contributions for the prize list be sent in at once, so that the new Secretary may get out the prize list early next year. A. C. BEAL, Secretary.

Our good friend, H. J. Bartholmey, of Chicago, Ill., one of the active vice-presidents of the Northwestern Peony and Iris Society. The two spikes of Gladioli are the variety *Mrs. Dr. Norton*, and Mr. Bartholmey writes that they were over six feet in height. While *Norton* is a tall growing variety the results secured by Mr. Bartholmey are certainly remarkable.

Shakespeare and the Garden.

"Shakespeare, with whose plants and flowers I am about to deal, is pre-eminently the poet of nature, and every man who would get full value out of his trees and flowers should try and cultivate a poetical spirit. In the little articles I propose to write on the flowers and plants of which he makes mention, I shall constantly regard him accordingly as the gardener's friend. On going through his plays, I find that of our English wild flowers, Shakespeare mentions about fifteen, alluding to some only once or twice, to others a dozen times. Of exotic flowers, or such as were cultivated in the scanty gardens of his period more than three hundred years ago, he mentions nine or ten. Of trees and shrubs, exotics included, there are notices of about twenty-five. Of fruits, whether ripened in England or imported from foreign countries, I find the names—sometimes often recurrent—of about thirty. Vegetables are spoken of in about equal proportion. Products of the nature of spice and medicines are mentioned to the extent of about a score; and the same is about the number of what are contemptuously called weeds. The total is about 150." "We must remember that Shakespeare had no floras to consult; it is doubtful if he could have found a botanical teacher. The only books upon plants then in existence were the writings, in Greek of Theophrastus and Dioscorides, and, in Latin, of Pliny and Columella, with such herbals and histories as had been produced in his own age; those, for instance, of Fuchsius and William Bulleyn."

For those who wish to make a Shakespeare garden it must be disappointing to find that the plants he mentions are so few in number. The list of 150 plants which Shakespeare mentions would be but little augmented were such contemporary writers consulted as Raleigh, Drayton, Marlowe and Spenser. The last named poet in his "Garden of Beauty," writes:

> "Bring hither a pink and purple Columbine
> With gylliflowers."

In another place we find:

> "Her lips did smell like unto gilliflowers,"

which he spells differently this time. In yet another poem we read:

> "Strew me the ground with daffie-down-dillies
> Cowslips and King Cups and loved lilies."

Shakespeare was, of course, familiar with the pleached or clipped hedge or bower, for he writes of

> "The pleached bower
> Where honeysuckles ripen'd by the Sun
> Forbid the Sun to enter."

There is a wonderful and almost prophetic passage in "Henry V" which tells of a ruined France (and incidentally shows Shakespeare to be an admirer of a well-kept hedge):

> "The naked poor and mangled peace
> Alas! she hath from France too long been chased,
> And all her husbandry doth lie on heaps,
> Corrupting in its own fertility;
> Her vine, the merry cheerer of the heart,
> Unpruned dies; her hedges, even pleached,
> Like prisoners wildly overgrown with hair,
> Put forth disordered twigs."

In "Henry VI" there is also a reference to the white Flag Iris which is of great importance for the planting of the garden. It occurs in a stirring call to arms, which appears to be needed now:

> "Awake, awake, English nobility!
> Let not sloth dim your honors new begot,
> Cropp'd are the flower-de-luces in your arms;
> Of England's coat one-half is cut away."

In "Henry VI" we read:

> "And here I prophesy—this brawl to-day,
> Grown to this faction in the temple garden,
> Shall send, between the red rose and the white,
> A thousand souls to death and deadly night."

From this passage I think we may gather that he was familiar with Roses trained to form a bower or temple. There are, naturally, several other references to the Rose. In one of his poems we find:

> "Nor did I wonder at the Lilies White,
> Nor praise the deep vermilion in the rose."

All will remember the lines from "The Midsummer Night's Dream":

> "I know a bank whereon the wild thyme blows,
> Where Oxlips and the nodding violet grows,
> Quite overcanopied with luscious woodbine,
> With sweet musk roses and with Eglantine."

In spite of the slight references to the formality of the Tudor garden, we find Shakespeare a lover of the simplest flowers. As the writer in the old number of *The Garden* before referred to truly says: "Having only simple plants to deal with, he has shown us how all comes right to a master, that the Cowslip is every bit as good an illustration, and comes charged with as much beauty as the proudest Lælia or any other floral aristocrat that fetches ten guineas a root."

The lines from "The Tempest" which Ariel sings, will be familiar to all:

> "Where the bee sucks there lurk I
> In a cowslip's bell I lie."

What could be more charming than this reference to the Daisy, to which he compares the hand of Lucrece:

> "Without the bed her other fair hand was
> On the green coverlet; whose perfect white
> Showed like an April daisy on the grass."

Again he compares the Violet to the eyelids of a sleeping lady:

> "Violets dim,
> But sweeter than the lids of Juno's eyes
> Or Cytherea's breath."

In another of his poems he sings of the spring:

> "When Daisies pied and violets blue
> And lady-smocks all silver white
> And cuckoo-buds of yellow hue
> Do paint the meadows with delight"

In yet another one we read:

> "The flower that is like thy face, pale primrose nor
> The azured harebell like thy veins, no nor
> The leaf of Eglantine; whom not to slander
> Out-sweeten'd not thy breath."

"The daffodils that come before the swallow dares"

have been recently referred to in *The Garden*, and Shakespeare sings of them again in the poem beginning:

> "When daffodils begin to peer"

The Rue and Rosemary, those herbs of "grace and remembrance" from the "Winter's Tale," have also been referred to.

There is one charming reference to the Pansy in addition to the words he puts into Ophelia's mouth:

> "There's Pansies that's for thoughts."

It is to be found in "The Midsummer Night's Dream," just after the well-known line "In maiden meditation fancy free":

> "Yet marked I where the bolt of Cupid fell,
> It fell upon a little western flower,
> Before, milk-white, now purple with Love's wound,
> And maidens call it Love-in-Idleness;
> Fetch me the flower; the herb I showed thee once:
> The juice of it on sleeping eyelids laid
> Will make or man or woman madly dote
> Upon the next live creature that it sees."

Space forbids further quotations, but those given are enough to show what a glamor Shakespeare throws over the few flowers he mentions, even if they be but "winking Mary-buds that begin to ope their golden eyes when the lark at heaven's gate sings."—H. H. WARNER in *The Garden*. (English.)

Massachusetts Agricultural College Flower Show.

The Division of Horticulture of the Massachusetts Agricultural College staged a "Country Fair" on October 15, 16 and 17, and in connection with the meetings of the American Civic Association. It followed more the lines of a horticultural fair, taking the place of the Horticultural Show, which was held in December of last year. The weather was favorable for staging exhibits in tents, the attendance was good, and the exhibits were of fine quality. Judging from the success of the fair, it should be staged next year on a larger and better scale.

Without doubt one of the most attractive exhibits was the flower show of the Department of Floriculture. Other exhibits were staged by the Departments of Pomology, Horticultural Manufactures, Vegetable Gardening, and General Horticulture. In addition there were also present the usual "hot-dog stand," the fortune teller, the games of chance and other features found at a country fair.

Table decorations of Roses were staged by senior students. The awards in this class were as follows: 1st prize (12 large flowered Chrysanthemums) to T. D. Watkins, Midlothian, Va., with *Columbia* Roses and Asparagus *plumosus* in an ivory white bowl; 2nd prize (6 large flowered Chrysanthemums) to G. C. West, Amesbury, Mass., with *Hadley* Roses and Asparagus *Sprengeri* in a gray bowl; 3rd prize (subscription to THE FLOWER GROWER for one year) to J. E. O'Hara, Worcester, Mass., with *Crusader* Roses and Asparagus *Sprengeri.*

In the class for junior students the awards for baskets of Roses were as follows: 1st prize (1 dozen *Ophelia* Roses) to F. B. Gustin, North Amherst, Mass., with *Columbia* Roses and Asparagus *plumosus* in a green basket; 2nd prize (6 *Ophelia* Roses) to C. G. McIntosh, Peabody, Mass., with *Premier* Roses and Asparagus *Sprengeri* in a green basket; 3rd prize (a subscription to THE FLOWER GROWER for one year) to Miss Dorothy Towle, Westfield, Mass., with *Pilgrim* Roses and Asparagus *Sprengeri.*

Vase arrangements were staged by the students in the Two-Year course. The awards were as follows: 1st prize (12 *Columbia* Roses) to Miss Emily Camp, Norwich, Conn., with Gladiolus *E. J. Shaylor;* 2nd prize (6 *Columbia* Roses) to F. M. Pagliaro, Springfield, Mass., with Chrysanthemum *Tiger;* 3rd prize (a subscription to THE FLOWER GROWER for one year) to L. Carlsen, Gloucester, Mass., with *White Killarney* Roses and Asparagus *Sprengeri.*

Ribbons were awarded in the commercial classes. The Carnations exhibited were especially good for this season of the year. The awards were as follows: Six Chrysanthemums, commercial type of any color, 1st Butler & Ullman, Northampton, Mass.; 25 Carnations, mixed, 1st, G. H. Sinclair, Holyoke, Mass; 12 Carnations, dark pink, 1st, G. H. Sinclair; 2nd, R. S. Carey, South Hadley Falls, Mass.; 3rd, Gallivan Brothers, Holyoke, Mass.; 12 Carnations, scarlet, 1st, R. S. Carey; 2nd, Gallivan Brothers; 3rd, G. H. Sinclair; 12 Carnations, white, 1st, Gallivan Brothers; 2nd, G. H. Sinclair; 3rd, R. S. Carey; 12 Carnations, any other color, 1st, R. S. Carey; 2nd, Gallivan Brothers; 3rd, G H. Sinclair.

The judges for the student classes were Mrs. K. L. Butterfield, Mrs. F. A. Waugh and Mrs. C. S. Hicks. The commercial entries were judged by the four members of the class in Commercial Floriculture, P. J. Cascio, J. E. O'Hara, T. D. Watkins and G. C. West.

Mark Aitken, Springfield, Mass., sent in two vases of Chrysanthemums for exhibition only, which were the finest Chrysanthemums in the show, and a vase of fine *Columbia* Roses.

W. H. Comeau, gardener on the Rocks Estate, Littleton, N.H., and a former student of the college, sent in some out-of-door grown sweet-peas, which were exceptionally good for this season of the year. Mr. Comeau also sent in one of his sweet-pea plants, which was approximately fifteen feet in height. It is needless to say the plant attracted much attention.

The Department of Floriculture exhibited a collection of greenhouse grown Gladioli which were very much admired. The collection included many of the Kunderdii types.

The Department wishes to express its appreciation to the commercial growers who entered or exhibited flowers. It is only through such co-operation that an exhibit of this nature can be made a real success.

Flower shows are the means of getting new people interested in flower growing. Flower shows should be promoted wherever possible, and the prize list should be made attractive and in sufficient detail to enable those who show to stand a good chance of winning. Prize money should be divided into at least four parts, first, second, third and fourth prizes.

Queries and Answers Department.

"All questions asked in good faith and which are of general interest will have careful attention. The full name and address of the writer must be given, but not for publication."

Lack of Humus in Garden Soil.

TO THE EDITOR:

I have a garden in which I grow Gladioli and vegetables. In years past it has had liberal applications of stable dressing, but none for four years. Have used commercial fertilizer entirely.

The result is a soil which is hard and lumpy and in digging bulbs am obliged to break the lumps to get them out.

What can I do to correct the condition stated? Would the prepared humus that I see advertised be of benefit? If any reader of THE FLOWER GROWER has tried it out would like to know the result.

W. A. W.

Answer—We really do not see how you can do much of any gardening without stable manure. The use of commercial fertilizer without manure will lead to just the condition you state in a heavy soil and in a light soil to a condition which is even worse. The continual use of commercial fertilizer without stable manure means a loss of humus which is necessary to plant growth. Would not recommend that you buy the prepared humus. It will probably be cheaper for you to buy stable manure right in your own city, and even if not well rotted you can compost it with any weeds or waste vegetation from the garden, and by keeping it one year you will have a fine dressing for use in the garden. Nothing will take the place of it. Although commercial fertilizer used with stable manure will surely be beneficial, it should not be depended upon solely.

Culture of Ismene Calentha.

TO THE EDITOR:—

Will some of the readers give cultural directions for the growing of Ismene *Calentha Grandiflora* (Peruvian Daffodil.) This is generally listed in all catalogues and described as of easy culture. I have obtained bulbs from several different seedsmen, and planted same in rich garden soil, giving much the same care as for Gladioli, but as yet have never been rewarded with a bulb blooming. Am wondering if there are any special cultural directions to follow or if the bulbs have to be of a certain age before blooming?

HAROLD D. SUTTLE.

Will not some of our readers who have had experience, give as complete information on this subject as possible? – (EDITOR.)

Do Gladioli Revert?

TO THE EDITOR:—

Do Gladioli revert to a former type? I sometimes find a new blossom quite inferior to what I supposed I had planted.

MRS. W. A. E.

Answer—Summing up my personal observation I must answer no to this question. I have multiplied many of the Kunderd varieties from a single bulb to good sized plantings, and in no case have I run across a reversion to some former type. The same holds true concerning old standard varieties and their multiplication by division and by cormels. I never planted a bulb that I knew as a certain variety, and at blossoming time found it to be something else. Likewise the cormels always came true. With valuable varieties one is inclined to watch every bulb closely, so that I feel my observation, as far as it goes, is reliable. If, then, someone finds an inferior blossom among his planting, this must be due to some other cause.

There is one possibility, however, which I would not rule out, and that is sporting. Some cormel, and possibly some division of an old bulb might show features that differ from the variety to which they belong. This difference need not be inferior features. It could just as easily consist in desirable points. Such variation I would not call reversion to type; it would be nothing but a trait latent in the variety and finally under favorable circumstances coming to light. Personally I have not found a case like this among my own Gladioli. Only where very large numbers are grown and critically watched could this sporting be detected. The Gladiolus seem to be quite constant, far more so than other bulbs, corms or tubers, which lessens the chance of this kind of variation.

R. C. H. LENSKI.

Catalogues and Price Lists.

H. M. Barrett & Son, Cranbury, N. J. Descriptive price list of an approved list of Gladioli, priced singly, by the dozen, and by the hundred. Also complete descriptions of the J. A. Kemp originations with prices.

P. Vos & Son, Mount Clemens, Mich. A very complete wholesale list of Gladioli, comprising the standard varieties and the well-known Vos named varieties. Brief descriptions and prices of the various sizes and bulblets.

H. E. Meader, Dover, N. H. Wholesale list of Gladioli. Also special circular of *Lilywhite.*

M. W. Smith, 220 Chauncy St., Mansfield, Mass. Retail price list of a selected list of Gladioli.

A. H. Austin Co., Wayland, Ohio. Wholesale list of the Austin originations and trade list of standard varieties.

John B. Humphrey, R. F. D. 1, Pataskala, Ohio. Fall 1920 – Spring 1921 price list of Gladioli.

E. M. Hoyt, Arvada, Colo. Trade price list of Gladioli.

J. W. Seiler Co., R. F. D. 1, Ravenna, Ohio. Retail price list of a selected list of Gladioli with brief descriptions.

Fred C. Hornberger, R. F. D. 2, Hamburg, N.Y. Trade price list of Gladioli.

Richard Diener Co., Kentfield, Marin County, Calif. 1921 edition of the complete catalogue of the Diener originations of Gladioli, Petunias, Dahlias, etc. Beautifully illustrated, with color pictures of Gladioli and Petunias.

John B. Humphrey, R. F. D. 1, Pataskala, Ohio. Trade price list of Gladioli. 1920-1921.

United Bulb Co., Mt. Clemens, Mich. Wholesale list of Gladiolus stocks with brief descriptions.

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